Issued to:



# **Punjab University of Technology Rasul**

# **BIDDING DOCUMENTS** FOR **National Competitive Bidding**

## **Procurement of**

## **Equipments for Electrical circuits & Electronics Labs**

| Bid Reference No:                   | PUT/PMU /2023-24/14  |
|-------------------------------------|--|
| Package No.14<br>Package Name:      | Equipments for Electrical circuits &<br>Electronics Labs               |
| Procurement Procedure & Method      | Two Stage Two Envelope (Least Cost Method,<br>Accumulative Cost Basis) |
| Last Date & Time of Receipt of Bids | As per Advertisement   |
| Bid Opening Date & Time:            | As per Advertisement   |

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## Section-I: INVITATION TO BIDS TENDER NOTICE

**Punjab University of Technology Rasul** invites sealed bids/proposals from well-reputed and financially sound firms/suppliers having sufficient relevant experience as per bid documents, registered with Income Tax and Sales Tax Departments as per PPRA rules for purchase of goods for the ADP Scheme titled "Provision of Infrastructural Academic and Operational facilities to the Punjab University of Technology Rasul M.B.Din" in lots/packages given below to be delivered and equipments installed (if any) in concerned Lab(s), at PUT Rasul on DDP (Duty Delivered Paid) basis more specifically described in Technical Specifications.

| Tender No.  | Description of Packages     | Estimated<br>Cost/ Bid<br>Security (Rs.) | Mode of Procurement   | Closing Date &<br>Time and<br>opening time | Bid rates<br>Validity &<br>Delivery<br>Period |
|-------------|-----------------------------|--|-----------------------|--|---|
|             | Package/ lot No. 14         | 15,089,000/                              | Two stage two         | 25.09.2023                                 | 120 days                                      |
| /2023-24/14 | Equipments for Electrical   | 301,800                                  | envelope procedure on | 11:00AM                                    | 90 days                                       |
|             | circuits & Electronics Labs |  | cumulative cost basis | 11:30AM                                    |   |

Interested eligible bidders can obtain bid documents in English language containing detailed item specifications, quantity and terms & conditions from office of the Project Director, Punjab University of Technology Rasul from 09:00AM. to 03:00PM. on any working day (Monday to Friday), on submission of written application and upon payment of non-refundable tender fee Rs. **5000**/- per package which should be deposited in university account No. **3174230619** NBP GSE Rasul Branch code 0469, Account Title: "Punjab University of Technology Rasul, Fund". Bid documents can also be downloaded from websites of PPRA or from Punjab University of Technology Rasul <u>www.putrasul.edu.pk.</u> In this case, tender fee can be transferred/ deposited online per package and send scanned copy of online transfer /deposit receipt by email before closing date for issuance of bid registered number. In case of any query, guidance can be sought from Imtiaz Ahmad Awan, Procurement Officer of the University. (Tel: +92 (336) 1031892, Email: rasulian786@gmail.com).

The sealed bids/proposals marked with Tender for relevant Package No. & name supported with Financial Proposal along with a bid security as given against each lot above in shape of CDR/ Bank Guarantee in favor of the Punjab University of Technology Rasul should reach in the Office of Project Director, Punjab University of Technology Rasul latest by closing date & time given above. Bids will be opened on the same day after 30 minutes of closing time by the Procurement Committee, in the presence of the bidders or their authorized representatives who wish to attend the meeting.

PUT Rasul will not be responsible for any cost or expense incurred by Bidders in connection with the preparation or delivery of Bids. In case the last date of submission of bids falls on closed official days/ holidays, the date for submission and opening of the bids shall be the next working day (Monday to Friday). University NTN is 9022261-4.

- Bid documents will be issued from the date of publication of Tender Notice.
- Last date of issuance of bid documents is September 23,2023.

Note: Procurement shall be governed by Punjab Procurement Rules, 2014.

Project Director (PMU), Punjab University of Technology Rasul

Section II Instructions to Bidders (ITB)

#### **General Instructions 2.1. Introduction**

| 2.1.1 Scope of<br>Bid                       | <ul> <li>i) The Procuring Agency (PA), as indicated in the Bid Data Sheet (BDS) invites Bids for the provision<br/>of Goods as specified in the Section-IV Bid Data Sheet (BDS) and Section III - Technical<br/>Specifications &amp; Section VII- Schedule of Requirements. Bidders must submit bids of all items of<br/>the lot. The successful bidder will be responsible for delivery, installation &amp; commissioning (if any)<br/>of all items at consignee's end in new, safe, sound and in operational condition within the specified<br/>period and timelines as stated in the Bid Data sheet (BDS).</li> </ul>   |
|---|--|
| 2.1.2 Source of<br>Funds                    | <ul> <li>PUT Rasul has received budget from the Government of Punjab. The Procuring Agency intends to<br/>apply the provided funds/ a portion of this budget to make eligible payments under the contract for<br/>which the Invitation to bids has been issued.</li> </ul>   |
| 2.1.3 Eligible<br>Bidders                   | <ul> <li>i) This Invitation for Bids is open to all suppliers, except as provided hereinafter.</li> <li>ii) Government-owned enterprises may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government (provide certificate).</li> <li>iii) Bidders shall not be under a declaration of blacklisting by any Government department or Punjab Procurement Regulatory Authority (PPRA) (provide certificate).</li> <li>iv) The Bidders must have NTN and STRN and active tax payer status</li> <li>v) A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be Non-Responsive.</li> <li>vi) A Bidder may be ineligible if –</li> </ul>   |
|   | <ul> <li>a) The Bidder is declared bankrupt or, in the case of company or firm, insolvent;</li> <li>b) Payments in favour of the Bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting, in accordance with the national laws, in the total or partial loss of the right to administer and dispose of its property;</li> <li>c) Legal proceedings are established against such Bidder involving an order suspending payments and which may result, in accordance with the national laws, in a declaration of bankruptcy or in any other situation entailing the total or partial loss of the right to administer and dispose of the property;</li> </ul>   |
|   | <ul> <li>d) The Bidder is convicted, by a final judgment, of any offence involving professional conduct;</li> <li>e) The Bidder is debarred and blacklisted due to involvement in corrupt and fraudulent practices in accordance with the provision of section 17A of PPRA Act, 2009 and Rule-21, read with Schedule appended with, Punjab Procurement Rules, 2014.</li> <li>f) The Bidder is debarred and blacklisted in general (i.e., to the extent of all public procurement) due to consistent performance failure in accordance with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-21, read with Rul</li></ul> |
|   | <ul><li>Rule-21, read with Schedule appended with, Punjab Procurement Rules, 2014.</li><li>g) The firm, supplier and contractor is blacklisted/ debarred by any international organization.</li></ul>  |
| 2.1.4. Eligible<br>Goods<br>and<br>Services | <ul> <li>i) All goods and related services to be supplied under the contract shall have their origin in eligible source countries, as per policy of Govt. of Pakistan, and all expenditures made under the contract will be limited to such goods and services.</li> <li>ii) For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.</li> <li>iii) The origin of goods and services is distinct from the nationality of the Bidder.</li> </ul>   |
| 2.1.5 Cost of<br>Bidding                    | <ul> <li>The Bidder shall bear all costs associated with the preparation and submission of its bid, and the<br/>Procuring Agency named in the Bid Data Sheet, hereinafter referred to as "the Procuring Agency,"<br/>will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the<br/>bidding process.</li> </ul>   |
| 2.1.6 One<br>person<br>one Bid              | <ul> <li>As per Rule 36A of Punjab Procurement Rules 2014, a Bidder shall submit only one Bid in the same<br/>bidding process, either individually as a Bidder or as a member in a joint venture or any similar<br/>arrangement.</li> </ul>  |

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|  | iii)           | venture in the same Bidding process.<br>A Bidder, if acting in the capacity of sub-contractor in any Bid, shall not submit bid for the same. |
|  | ii)            | No Bidder can be a sub-contractor while submitting a Bid individually or as a member of a joint  |

## **2.2.** The Bidding Documents

| 2.2.  | I ne Diuum                         |   |
|-------|------------------------------------|---|
| 2.2.1 | Content of<br>Bidding<br>Documents | <ul> <li>The goods required, bidding procedures, and contract terms are prescribed<br/>in the bidding documents. In addition to the Invitation for Bids, the bidding<br/>documents include:</li> <li>(a) Instructions to Bidders (ITB)</li> </ul>   |
|       |                                    | (b) Technical Specifications  |
|       |                                    | (c) Bid Data Sheet  |
|       |                                    | (d) General Conditions of Contract (GCC)  |
|       |                                    | (e) Special Conditions of Contract (SCC)  |
|       |                                    | (f) Schedule of Requirements  |
|       |                                    | (g) Bid Submission Form   |
|       |                                    | (h) Manufacturer's Authorization Form (if applicable)   |
|       |                                    | (i) Bidder Profile Form   |
|       |                                    | (j) General Information Form  |
|       |                                    | (k) Affidavit   |
|       |                                    | <ul><li>(1) Bid Security Form (if bid security as bank guarantee)</li><li>(m) Technical Bid Form</li></ul>  |
|       |                                    | (n) Contract Form (at the time of contract signing)   |
|       |                                    | (o) Financial Bid Form/ Price Schedule  |
|       |                                    | <ul> <li>(p) Performance Guarantee Form/ CDR (at the time of contract signing)</li> <li>(c) Dueft Lateurite Post (if such that the time of contract signing)</li> </ul>   |
|       |                                    | (q) Draft Integrity Pact (if applicable)  |
|       |                                    | <ul><li>(r) Certificate</li><li>(s) Bidders Commentary Form</li></ul>   |
|       |                                    | (t) Check list  |
|       |                                    | ii) The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information   |
|       |                                    | required by the bidding documents or to submit a bid not substantially<br>responsive to the bidding documents in every respect will be at the Bidder's<br>risk and may result in the rejection of its bid.  |
|       |                                    | ii) In case of discrepancies between the Invitation to Bid and the Bidding  |
|       |                                    | Documents listed in ITB 2.2.1 (i) above, the said Bidding Documents, not in   |
|       |                                    | conflict with any provision of PPR-14, will take precedence.  |
|       |                                    | v) The Procuring Agency is not responsible for the completeness of the  |
|       |                                    | Bidding Documents and their addenda, if they were not obtained directly<br>from the Procuring Agency or from its website or website of PPRA. Re-<br>confirming from the Procuring Agency that all pages/ contents have been   |
|       |                                    | properly and clearly received is the prime responsibility of the Bidder.  |
| 2.2.2 | Clarification                      | i) A prospective Bidder requiring any clarification of the bidding documents  |
|       | of Bidding<br>Documents            | may notify the Procuring Agency in writing or by email at the Procuring<br>Agency's address indicated in Bid Data Sheet. The Procuring Agency will<br>respond in writing to any request for clarification of the bidding documents  |
|       |                                    | which it receives no later than three (7) days prior to the deadline for the submission of bids prescribed in the Bid Data Sheet. Written copies of the Procuring Agency's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective bidders that have received the bidding documents. |
|       |                                    | <ul> <li>A prospective Bidder requiring any clarification of the Bidding Documents<br/>may notify the Procuring Agency in writing or in electronic form that<br/>provides record of the content of communication at the Procuring Agency's<br/>address indicated in the <b>BDS</b>.</li> </ul>  |
|       |                                    | <ul><li>ii) The Procuring Agency will within three (3) working days after receiving the request for clarification, respond in writing or in electronic form to any</li></ul>  |

|  | -                 |  |
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|  |                   | request for clarification provided that such request is received not later than seven (7) days prior to the deadline for the submission of Bids. As prescribed in <b>ITB 2.2.2 (i), above</b> .  |
|  | iv)               | Copies of the Procuring Agency's response will be uploaded on the website<br>of procuring agency on given date and forwarded to identified Prospective<br>Bidders through an expeditious identified source of communication, e.g.: e-<br>mail etc., including a description of the inquiry, but without identifying its<br>source.   |
|  | v)                | The Bidder's designated representative is invited at the Bidder's cost<br>to attend a pre-Bid meeting at the place, date and time mentioned <b>in</b><br><b>the BDS</b> . During this pre-Bid meeting, prospective Bidders may<br>request clarification of the schedule of requirement, the Evaluation<br>Criteria or any other aspects of the Bidding Documents.  |
|  | vi)               | Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be transmitted promptly to all prospective Bidders who have obtained the Bidding Documents and by uploading same on the website of the procuring agency. Any modification to the Bidding Documents that may become necessary as a result of the pre-Bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum pursuant to ITB 2.2.3. Non-attendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.              |
| 2.2.3 Amendment<br>of Bidding<br>Documents | i)<br>ii)<br>iii) | At any time prior to the deadline for submission of bids, but not later than<br>three (3) days before the closing date of the submission of Bid, the Procuring<br>Agency, for any reason, whether at its own initiative or in response to a<br>clarification requested by a prospective Bidder, may modify the bidding<br>documents by amendment.<br>All prospective bidders that have received the bidding documents will be<br>notified of the amendment in writing or by email, and will be binding on them.<br>In order to allow prospective bidders reasonable time in which to take an<br>addendum into account in preparing their bids, the Procuring Agency, at its<br>discretion, may extend the deadline for the submission of bids. |
| 2.3. Preparation                           | of                | Bids   |
| 2.3.1 Language of<br>Bid                   | i)                | The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Procuring Agency shall be written in the language specified in the <b>Bid Data Sheet.</b> Supporting documents and printed literature furnished by the Bidder should be in same language.  |
| 2.3.2 Bid Form                             | i)                | The Bidder shall complete the Bid Form and Price Schedule (Financial Bid) furnished in the bidding documents, indicating the goods to be supplied, a brief description of goods, their country of origin, brand, model, quantity and prices.   |
| 2.3.3 Bid Prices                           | i)                | Item wise total price in figures and grand total price, in words and figures<br>should be quoted at the respective columns of the Bid Form. The total quoted<br>price must be inclusive of all applicable taxes and duties as per prevailing<br>Govt. rules, transportation / delivery, installation and commissioning charges<br>etc. in Pak Rupees.  |
|  | ii)               | Prices indicated on the bid form shall be <b>delivered duty paid (DDP) prices</b> .  |
| 2.3.4 Bid Currencies                       | i)                | Full and final prices shall be quoted in Pak Rupees  |
|  |                   |  |

| 2.3.5 Documents<br>Establishing<br>Bidder's                                   | i) The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.   |
|---|--|
| Eligibility and<br>Qualification  | ii) The documentary evidence of the Bidder's eligibility to Bid shall establish to the Procuring Agency's satisfaction that the Bidder, at the time of submission of its Bid, is eligible as defined under ITB Clause 2.1.3.   |
|   | iii) The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Procuring Agency's satisfaction:  |
|   | <ul> <li>(a) that, in the case of a Bidder offering to supply goods under the contract<br/>which the Bidder did not manufacture or otherwise produce, the Bidder has<br/>been duly authorized by the goods' Manufacturer [Manufacturer's/<br/>Authorized Dealer's Authorization Form No. 8.3] or producer/Authorized<br/>dealer to supply the same in Pakistan;</li> </ul>   |
|   | (b) that the Bidder has the financial, technical, and personnel capability necessary to perform the contract;  |
|   | (c) that, in the case of a Bidder not doing business within Pakistan, the Bidder<br>is or will be (if awarded the contract) represented by an Agent in that country<br>equipped, and able to carry out the Supplier's maintenance, repair, and spare<br>parts stocking obligations prescribed in the Conditions of Contract and/or<br>Technical Specifications; and  |
|   | (d) that the Bidder meets the qualification criteria listed in the Bid Data Sheet.   |
| 2.3.6 Documents<br>Establishing<br>Goods'<br>Eligibility and<br>Conformity to | <ul> <li>Pursuant to ITB Clause 2.1.4, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services which the Bidder proposes to supply under the contract.</li> </ul>   |
| Bidding<br>Documents  | <ul> <li>The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule/Financial Bid Form of the country of origin of the goods and services offered which shall be confirmed by a Certificate of Origin issued at the time of shipment.</li> </ul>   |
|   | <ul><li>iii) The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:</li></ul>   |
|   | <ul> <li>(a) a detailed description of the essential technical and performance characteristics of the goods;</li> <li>(b) a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period to be specified in the Bid Data Sheet, following commencement of the use of the goods by the Procuring Agency; and</li> <li>(c) an item-by-item commentary on the Procuring Agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.</li> <li>iv) For purposes of the commentary to be furnished, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring Agency in its Technical Specifications, are intended to be descriptive only and not restrictive.</li> <li>(a) If some of the specifications are not available in the literature / brochure provided by the bidder but the same have been mentioned /</li> </ul> |
|   | reported / committed in the Commentary Form by the bidder, the<br>bidder will give an undertaking or in response of Procuring Agency's<br>clarifications, that the machinery & equipment to be supplied will   |

|                    | conform to the required / bid specifications. The procuring agency  |
|--------------------|---|
|                    | <ul> <li>reserve the rights to accept or reject the clarification.</li> <li>(b) The commentary form facilitates the bidder to elaborate their bid offer in terms of required accessories / specifications which are not available in the technical literature / brochure of the goods. In case the brochure provided by the bidder meets all the required specifications then commentary form has no significant impact.</li> </ul> |
|                    | <ul><li>(c) In case of contradiction between the brochure and commentary form, the information available in the brochure will prevail.</li><li>v) Where a sample(s) is required by a procuring agency, the sample shall be:</li></ul>   |
|                    | <ul> <li>(a) submitted as part of the bid, in the quantities, dimensions and other<br/>details requested in the BDS;</li> </ul>   |
|                    | <ul><li>(b) carriage paid;</li><li>(c) received on, or before, or after technical bids the closing time and date</li></ul>  |
|                    | <ul><li>for the submission of bids as specified in DBS; and</li><li>(d) Evaluated to determine compliance with all characteristics listed in the BDS.</li></ul>   |
|                    | vi) The Procuring Agency may retain the sample(s) of the successful Bidder till the successful delivery of the goods. A Procuring Agency may reject the Bid if the sample(s)-   |
|                    | <ul> <li>(a) do(es) not conform to all characteristics prescribed in the bidding documents; and</li> </ul>  |
|                    | (b) is/are not submitted within the specified time clearly mentioned in the Bid Data Sheet.   |
|                    | vii) Where it is not possible to avoid using a propriety article as a sample, a<br>Bidder shall make it clear that the propriety article is displayed only as an<br>example of the type or quality of the goods being Bided for, and that<br>competition shall not thereby be limited to the extent of that article only.   |
|                    | viii) Samples made up from materials supplied by a Procuring Agency shall not<br>be returned to a Bidder nor shall a Procuring Agency be liable for the cost<br>of making them.   |
|                    | ix) All samples produced from materials belonging to an unsuccessful Bidder<br>may be kept by the Procuring Agency till thirty (30) days from the date of<br>award of contract or exhaust of all the grievance forums (including those<br>pending at Authority's Level or in some Court of Leve)  |
|                    | <ul> <li>pending at Authority's Level or in some Court of Law).</li> <li>x) The Bidder shall also furnish a list giving full particulars, including available sources and current prices of goods, spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period specified in the BDS following commencement of the use of the goods by the Procuring Agency.</li> </ul>     |
|                    | xi) The required documents and other accompanying documents must be in English. In case any other language than English is used the pertinent translation attested by the embassy in country of manufacturer into English shall be attached to the original version.  |
| 2.3.7 Bid Security | i) The Bidder shall furnish, as part of its bid, a bid security in the amount specified in the Bid Data Sheet.  |
|                    | ii) The bid security is required to protect the Procuring Agency against the risk of Bidder's conduct which would warrant the security's forfeiture Pursuant to ITB Clause 2.3.8.   |
|                    | iii) The bid security shall be in Pak. Rupees and shall be in one of the following forms:   |
|                    | <ul><li>(a) Bank guarantee or Call Deposit Receipt (CDR), valid for thirty (30) days beyond the validity of bid.</li></ul>  |
|                    | iv) Any bid without bid security or less than the amount as demanded in invitation to bid will be rejected by the Procuring Agency as nonresponsive   |

|  | v)   | Unsuccessful bidders' bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Procuring Agency as rule $38(2)(a)(vii)$ of PPR14.   |
|--|------|---|
|  | vi)  | The successful Bidder's bid security will be discharged upon the Bidder signing the contract, and furnishing the performance guarantee.   |
|  | vii) | The bid security may be forfeited:  |
|  |      | <ul><li>(a) if a Bidder withdraws its bid during the period of bid validity specified<br/>by the Bidder on the Bid Form; or</li></ul>   |
|  |      | (b) in the case of a successful Bidder, if the Bidder fails:  |
|  |      | (i) to sign the contract Or   |
|  |      | (ii) to furnish performance guarantee   |
|  |      | <ul> <li>(iii) If the blacklisting proceedings under Section-17A of PPRA<br/>Act, 2009 read with Rule-21 of PPR-14 are initiated and the<br/>bidder is declared blacklisted after due process of law.</li> </ul>  |
| 2.3.8 Period of<br>Validity of<br>Bids | i)   | Bids shall remain valid for the period specified in the Bid Data Sheet after<br>the date of bid opening prescribed by the Procuring Agency. A bid valid<br>for a shorter period shall be rejected by the Procuring Agency as<br>nonresponsive.  |
|  | ii)  | In exceptional circumstances, the Procuring Agency may solicit the<br>Bidder's consent to an extension of the period of validity (as per rule-28 of<br>PPR-14). The request and the responses thereto shall be made in writing<br>(or by email). The bid security provided shall also be suitably extended.<br>A Bidder may refuse the request without forfeiting its bid security. A<br>Bidder accepting the request will not be required nor permitted to modify<br>its Bid.  |
| 2.3.9 Format and<br>Signing of Bid     | i)   | The Bidder shall prepare an original and the number of copies of the Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.  |
|  | ii)  | The Bidder shall authorize a person/ persons for signing, submission and<br>further correspondence with Procuring Agency on behalf of bidder.<br>Authority letter must be part of bid. However, in case of any issue bidder<br>shall be responsible for all consequences.   |
|  | iii) | The original and the copy or copies of the Bid shall be typed or written in<br>indelible ink and shall be signed by the Bidder or a person duly authorized<br>to bind the Bidder to the contract. This authorization shall consist of a<br>written confirmation as specified in the <b>BDS</b> and shall be attached to the<br>Bid. The name and position held by each person signing the authorization<br>must be typed or printed below the signature. All pages of the Bid, shall<br>be signed and stamped by the authorized person. |
|  | iv)  | Any interlineations, erasures & cutting, or overwriting shall be valid only if they are signed and stamped by the person or persons signing the bid.<br>2.4. Submission of Bids   |

## 2.4. Submission of Bids

| 2.4.1 Sealing | i) As per Rule 24, the Bidder shall seal the original and each copy of the Bid in separate |  |  |  |
|---------------|--|--|--|--|
| and           | envelopes, duly marking the envelopes as "ORIGINAL" and "COPY." The envelopes              |  |  |  |
| Marking       | shall then be sealed in an outer envelope. The bidder should submit technical and          |  |  |  |
| of Bids       | financial bids in two separate envelopes clearly marking "Technical Bid" and               |  |  |  |
|               | "Financial Bid" covered under one main (Outer) envelope marking Bid Reference and          |  |  |  |
|               | Package Name on top left corner of the main (outer) envelope. Address and contact No.      |  |  |  |
|               | of the bidder should also be written on inner and outer envelope.                          |  |  |  |

|   | ii)  | The inner and outer envelopes shall:   |
|---|------|--|
|   | ,    | <ul><li>(a) be addressed to the Procuring Agency at the address given in the Bid Data Sheet;<br/>and</li></ul>   |
|   |      | <ul><li>(b) bear the title of procurement Activity indicated in the Bid Data Sheet, the Invitation to Bids (ITB) title and number indicated in the Bid Data Sheet, and a statement: "DO NOT OPEN BEFORE. (Time and date)," the outer and inner envelopes should properly be sealed so that contents of the bid are fully enclosed and cannot be known until open.</li></ul>  |
|   | iii) | The outer envelope and inner envelopes also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".   |
|   | iv)  | If the outer envelope is not sealed and marked properly, the Procuring Agency will assume no responsibility for the bid's misplacement or premature opening.   |
|   | v)   | Technical Bid / Proposal should consist of duly singed and stamped bidding documents,<br>Form of bid indicating country of origin and Brand, Model and literature / brochures<br>and all information / documents demanded in the bidding documents for technical<br>evaluation. Bid Security as demanded in advertisement / invitation to bid must be<br>placed in technical bid. Financial Bid / Proposal should consist of price / rates on the<br>prescribed format available in the bidding documents. |
| 2.4.2 Deadline<br>for Submission                    | i)   | Bids must be received by the Procuring Agency at the address specified in the bid data sheet no later than the time and date specified in the Bid Data Sheet.  |
| of Bids   | ii)  | The Procuring Agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents, in which case all rights and obligations of the Procuring Agency and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.  |
| 2.4.3 Late Bids                                     | i)   | Any bid received by the Procuring Agency after the deadline for submission of bids prescribed by the Procuring Agency will be rejected and returned unopened to the Bidder.  |
|   | ii)  | Any Bid received by the Procuring Agency after the deadline for submission of Bids shall be declared late, recorded, rejected and returned unopened to the Bidder.   |
| 2.4.4Modificatio<br>n and<br>Withdraw<br>al of Bids | i)   | The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring Agency prior to the deadline prescribed for submission of bids.   |
|   | ii)  | The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of Clause (i). A withdrawal notice may also be sent by email, but followed by a signed confirmation copy, postmarked not later than the deadline for submission of bids.  |
|   | iii) | No bid may be modified after the deadline for submission of bids.  |
|   | iv)  | No bid may be withdrawn in the interval between the deadline for submission of bids<br>and the expiration of the period of bid validity specified by the Bidder on the Bid Form.<br>Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid<br>security (along with other remedies available under PPR-14).  |
|   | v)   | Revised bid may be submitted after the withdrawal of the original bid by written notice before the deadline for submission of Bids.  |

## 2.5. Opening and Evaluation of Bids

| 2.5.1 Opening of | <ul> <li>the Procuring Agency will open all technical bids, in public, in the presence of bidders or</li></ul>  |  |
|------------------|---|--|
| Bids by the      | bidders' representatives who choose to attend, at the time, on the date, and at the plac  |  |
| Procuring        | specified in the <b>Bid Data Sheet</b> . The bidders or bidders' representatives who are present  |  |
| Agency           | shall sign an attendance sheet evidencing their presence.   |  |
| Agency           | <ul> <li>ii) First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No</li> </ul> |  |

|                          | bid withdrawal shall be permitted unless the corresponding Withdrawal Notice contains<br>a valid authorization to request the withdrawal and is read out at bid opening.   |
|--------------------------|--|
|                          | iii) Second, outer envelopes marked "SUBSTITUTION" shall be opened. The inner<br>envelopes containing the Substitution Bid shall be exchanged for the corresponding<br>Original Bid being substituted, which is to be returned to the Bidder unopened. No<br>envelope shall be substituted unless the corresponding Substitution Notice contains a<br>valid authorization to request the substitution and is read out and recorded at bid opening.   |
|                          | iv) Next, outer envelopes marked "MODIFICATION" shall be opened. No Technical<br>Proposal and/or Financial Proposal shall be modified unless the corresponding<br>Modification Notice contains a valid authorization to request the modification and is read<br>out and recorded at the opening of the Bids. Any Modification shall be read out along<br>with the Original Bid except in case of Single Stage Two Envelope Procedure where only<br>the Technical Proposal, both Original as well as Modification, are to be opened, read out,<br>and recorded at the opening. Financial Proposal, both Original and Modification, will<br>remain unopened till the prescribed financial bid opening date.  |
|                          | <ul> <li>v) At the first stage, only technical bids / proposals will be opened and sealed financial bids will remain under the custody of procuring agency until open in the second stage. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder, pursuant to 2.4.3 (i). The presence or absence of requisite bid security will be announced. The technical proposals shall be discussed with the bidders with reference to the procuring agency's technical requirements;</li> <li>vi) those bidders willing to meet the requirements of the procuring agency shall be allowed to revise their technical proposal so per revised requirements of the procuring agency shall be allowed to withdraw their respective bids without forfeiture of their bid security;</li> </ul>   |
|                          | <ul> <li>Second stage</li> <li>vii) after agreement between the procuring agency and the bidders on the technical requirements, bidders who are willing to conform to the revised technical specifications and whose bids have not already been rejected shall submit a revised technical proposal</li> </ul>  |
|                          | <ul> <li>and supplementary financial proposal, according to the technical requirement;</li> <li>viii) the revised technical proposal along with the original financial proposal and supplementary financial proposal shall be opened at a date, time and venue announced in advance by the procuring agency:</li> <li>Provided that in setting the date for the submission of the revised technical proposals and supplementary price proposals a procuring agency shall allow sufficient time to the bidders to incorporate the agreed changes in the technical proposal and to prepare the required supplementary financial proposal; and</li> <li>ix) The bidders' names, bid prices, discounts, and such other details as the Procuring Agency, at its discretion, may consider appropriate, will be announced at the opening. The procuring agency shall evaluate the whole proposal in accordance with the evaluation returned agency shall evaluate the whole proposal in accordance with the evaluation</li> </ul> |
|                          | <ul> <li>criteria and the lowest evaluated bid shall be accepted.</li> <li>x) The Procuring Agency will prepare minutes of the bid opening. Minutes of the Bid Opening shall be recorded and uploaded by the procuring agency on its website or shared to all bidders through e-mail.</li> </ul>   |
| 2.5.2<br>Confidentiality | i) Information relating to the examination, clarification, evaluation and comparison of Bids<br>and recommendation of contract award shall not be disclosed to Bidders or any other<br>persons not officially concerned with such process until the time of the announcement of<br>the respective evaluation report in accordance with the requirements of rule 37 of PPR-<br>14.  |
|                          | <ul> <li>ii) Any effort by a Bidder to influence the Procuring Agency processing of Bids or award decisions may result in the rejection of its Bid.</li> <li>iii) Notwithstanding ITB Clause 2.2.2 from the time of Bid opening to the time of contract award, if any Bidder wishes to contact the Procuring Agency on any matter related to the</li> </ul>  |

|  | Bidding process, it should do so in writing or in electronic forms that provides record of the content of communication.  |
|--|---|
| 2.5.3<br>Clarification of<br>Bids      | <ul> <li>During evaluation of the bids, the Procuring Agency may, at its discretion, ask the Bidder<br/>for a clarification of its Bid including breakdown of prices to determine its reasonability.<br/>The request for clarification and the response shall be in writing or in electronic forms,<br/>and no change in the prices or substance of the bid shall be sought, offered, or permitted.<br/>Any clarification submitted by a Bidder that is not in response to a request by the<br/>Procuring Agency shall not be considered.</li> </ul>  |
|  | ii) From the time of Bid opening to the time of Contract award if any Bidder wishes to contact the Procuring Agency on any matter related to the Bid it should do so in writing or in electronic forms that provide record of the content of communication.   |
| 2.5.4 Preliminary<br>Examination       | i) The Procuring Agency will examine the bids to determine whether they are complete,<br>whether any computational errors have been made, whether required securities have been<br>furnished, whether the documents have properly been signed, and whether the bids are<br>generally in order.  |
|  | ii) Arithmetical errors will be rectified on the following basis.   |
|  | <ul> <li>a) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited.</li> <li>b) If there is a discrepancy between words and figures, the amount in words will prevail.</li> </ul>  |
|  | iii) Prior to the detailed evaluation, the Procuring Agency will determine the substantial responsiveness of each bid to the bidding documents, pursuant to ITB Clause 2.5.5. For purposes of these Clauses, a substantially responsive bid is one which most closely conforms to all the terms and conditions of the bidding documents without deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning <b>Bid Security</b> (ITB Clause 2.3.8), <b>Applicable Law</b> (GCC Clause 30), <b>Taxes and Duties</b> (GCC Clause 32) & mandatory Registrations/ Renewals will be deemed to be a material deviation. The Procuring Agency's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence. |
|  | iv) If a bid is not substantially responsive, it will be rejected by the Procuring Agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.   |
|  | v) Prior to the detailed evaluation of Bids, the Procuring Agency will determine whether each Bid:  |
|  | <ul><li>a) Meets the eligibility criteria defined in ITB 2.1.3 and ITB 2.1.4;</li><li>b) Has been prepared as per the format and contents defined by the Procuring Agency in the Bidding Documents;</li></ul>   |
|  | c) Has been properly signed;  |
|  | d) Is accompanied by the required securities; and   |
|  | <ul> <li>e) Is responsive to the requirements of the Bidding Documents.</li> <li>The Procuring Agency's determination of a Bid's responsiveness will be based on the contents of the Bid itself.</li> </ul>   |
| 2.5.5<br>Examination of<br>Terms and   | i) The Procuring Agency shall examine the Bid to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the Bidder without any material deviation or reservation.   |
| Conditions;<br>Technical<br>Evaluation | <ul> <li>ii) The Procuring Agency shall evaluate the technical aspects of the Bid submitted to confirm that all requirements specified in Section III-Technical Specifications, Section VII – Schedule of Requirements &amp; Evaluation Criteria as provided in BDS, have been met without material deviation or reservation.</li> </ul>  |

|   | iii) If after the examination of the terms and conditions and the technical evaluation,  |
|---|--|
|   | the Procuring Agency determines that the Bid is not responsive in accordance, it   |
|   | shall reject the Bid.  |
| 2.5.6. Correction                                       | i) Bids determined to be substantially responsive will be checked for any arithmetic   |
| of Errors   | errors. Errors will be corrected as follows: -   |
|   | <ul> <li>a) If there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the Procuring Agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;</li> <li>b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the sub-totals shall prevail and the total shall be corrected; and</li> <li>c) Where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.</li> <li>d) Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.</li> <li>ii) The amount stated in the Bid will, be adjusted by the Procuring Agency in accordance with the above procedure for the correction of errors. The concurrence of the Bidder shall be considered as binding upon the Bidder. If the Bidder does not accord and the approximation of the Bidder does not accord and the approximation of a subtraction of and the Bidder does not accord and the approximation of a subtraction of errors.</li> </ul> |
|   | not accept the corrected amount, its Bid will then be rejected, and the Bid Security may be forfeited or the Bid Securing Declaration may be executed in accordance with <b>ITB 2.3.8</b> .  |
| 2.5.8 Post-<br>Qualification &<br>Evaluation of<br>Bids | i) In the absence of <b>prequalification</b> , the Procuring Agency will determine to its satisfaction whether the Bidder is qualified to perform the contract satisfactorily as per evaluation criteria listed in BDS & ITB clause 2.1.3.   |
| BIUS  | ii) The determination will take into account the Bidder's experience, Bidder's financial, technical, and production/ supplying capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 2.3.6, as well as such other information required for eligibility/ qualification expressed in BDS as the Procuring Agency deems necessary and appropriate.  |
|   | <ul> <li>iii) The Procuring Agency will technically evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 2.5.5, as per Technical Specifications required.</li> <li>iv) The financial evaluation of a Bid will be on the basis of form of Price Schedules/ Financial Bid Form 8.10. The bidder offering partial scope of work will be disqualified. The bidder offering complete scope of work and securing required marks or more in the technical evaluation will be declared technically qualified bidder. All quoted items of the complete package should meet the minimum required specification. In case any one item out of the complete package does not meet the minimum required specification then such a bid will be rejected. All bidders will be informed after technical evaluation either they are qualified or not.</li> </ul>  |
|   | <ul> <li>v) The Procuring Agency's financial evaluation of a bid will be on delivered duty paid<br/>(DDP) price inclusive of prevailing taxes and duties. A bid most closely conforming to<br/>evaluation criteria and other conditions specified in the bidding documents and having<br/>lowest evaluated cost will be selected as lowest evaluated bid.</li> </ul>   |
| 2.5.9 Contacting<br>the Procuring<br>Agency             | <ul> <li>No Bidder shall contact the Procuring Agency on any matter relating to its bid, from the<br/>time of the bid opening to the time evaluation report is made public i.e., 10 days before<br/>the contract is awarded. If the Bidder wishes to bring additional information or has<br/>grievance to the notice of the Procuring Agency, it should do so in writing.</li> </ul>   |
|   | ii) Any effort by a Bidder to influence the Procuring Agency during bid evaluation, or bid comparison may result in the rejection of the Bidder's bid.   |

| 2.5.10. Grievance<br>Redressal | i) As per Rule-67 of PPR-14, Procuring Agency has constituted a Grievance Redressed<br>Committee (GRC) with proper powers and authorization to address the complaints.   |
|--------------------------------|--|
|                                | ii) Any Bidder feeling aggrieved can file its written complaint against the eligibility<br>parameters or any other terms and conditions prescribed in the Bidding documents found<br>contrary to provision of Rule 33, and the same shall be addressed by the Procuring<br>Agency well before the proposal submission deadline.  |
|                                | iii) Any party can file its written complaint against the eligibility parameters or any othe<br>terms and conditions prescribed in the bidding documents found contrary to provision o<br>Rule 34 and the same shall be addressed by the Procuring Agency well before the proposa<br>submission deadline.  |
|                                | iv) Any Bidder feeling aggrieved by any act of the Procuring Agency after the submission of his Bid may lodge a written complaint concerning his grievances not later than ter days after the announcement of the Final evaluation reports. In case of single stage – two envelope bidding procedure any bidder feeling aggrieved from technical evaluation may file a grievance within 5 days of announcement of the technical evaluation report. After completion of the technical evaluation process, the procuring agency shall immediately upload the technical evaluation report on the website of PPRA and Procuring Agency for obtaining/ receiving grievance petitions from the prospective bidders (if any). |
|                                | v) In case, the complaint/grievance is filed after the issuance of the final evaluation report<br>the complainant cannot raise any objection on technical evaluation of the report. Provided<br>that the complainant may raise the objection on any part of the final evaluation report in<br>case where single stage one envelop bidding procedure is adopted.  |
|                                | vi) The GRC shall investigate and decide upon the complaint within fifteen days of the receipt of the complaint. Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.  |

#### 2.6. Award of Contract

| 2.6.1. Notification of Award   | i)   | Prior to the expiration of the period of bid validity, the Procuring Agency<br>will notify the successful Bidder in writing by registered letter or by email<br>to be confirmed in writing by registered letter, that its bid has been<br>accepted.  |
|--------------------------------|------|--|
|                                | ii)  | The notification of award will constitute the formation of the Contract.   |
|                                | iii) | Upon the successful Bidder's furnishing of the Performance Guarantee pursuant to ITB Clause 2.6.2 (i), the Procuring Agency will promptly notify each unsuccessful Bidder and will discharge its Bid security, pursuant to ITB Clause 2.3.8 (v).   |
| 2.6.2 Performance<br>Guarantee | i)   | Within seven (07) days of the receipt of notification of award, the successful Bidder shall furnish the performance guarantee in accordance with the Conditions of Contract, in the Performance Guarantee Form provided in the bidding documents, or in another form acceptable to the Procuring Agency.   |
|                                | ii)  | Failure of the successful Bidder to comply with the requirement of ITB Clause (i) above or ITB Clause 2.6.3 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security along with other remedies available under PPR-14. After that, the Procuring Agency may decide to award the contract to the next lowest evaluated Bidder, keeping in view the Bid validity time, or call for new Bids keeping in view the concept of value for money as defined under rule-2(ae) read with Principles of Procurement as enunciated in rule-4 of PPR-14. |

| 2.6.3 Signing of<br>Contract/ Issuance<br>of Purchase Order                  | i)<br>ii)   | At the same time as the Procuring Agency notifies the successful Bidder<br>that its Bid has been accepted, the Procuring Agency will <b>send the Bidder</b><br><b>the Contract Form provided in the Bidding documents, incorporating</b><br><b>all agreements between the parties.</b> Within seven (07) days of issuance<br>of notification of award, the successful Bidder shall sign, stamp and date<br>the contract.<br>The procuring agency shall issue purchase order after the receipt of                |
|--|-------------|---|
| 2.6.4 Award<br>Criteria  | i)          | required performance guarantee, as per rule 55 of PPR-14.<br>Subject to ITB Clause 2.6.2, under rule-55 of PPR-14, the Procuring<br>Agency will award the contract to the successful Bidder whose Bid has<br>been determined to be responsive and has been determined to be the lowest<br>evaluated Bid, provided that the Bidder has been determined to be qualified<br>to perform the contract satisfactorily.  |
| 2.6.5. Procuring<br>Agency's Right to<br>Vary Quantities at<br>Time of Award | i)          | The Procuring Agency reserves the right at the time of contract award to increase or decrease the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions, on the analogy of rule-59 I(iv) of PPR-14 (not more than 15%).  |
| 2.6.6 Procuring<br>Agency's Right to<br>Accept or Reject<br>All Bids         | i)          | As per rule 35 of PPR-14, the Procuring Agency reserves the right to accept<br>or reject all bids, and to annul the bidding process at any time prior to<br>contract award, without thereby incurring any liability to the Bidder or<br>bidders or any obligation to inform the bidders of the grounds for the<br>Procuring Agency's action.  |
|  | ii)<br>iii) | The Bidders shall be promptly informed about the rejection of the Bids, if<br>any.<br>The Procuring Agency shall upon request communicate to any Bidder, the<br>grounds for its rejection of all Bids or proposals, but shall not be required   |
| 2.6.7 Re-bidding   | i)          | to justify those grounds.<br>If the Procuring Agency rejects all the Bids under rule 35, it may proceed<br>with the process of fresh Bidding but before doing that it shall assess the<br>reasons for rejection and may, if necessary, revise specifications,<br>evaluation criteria or any other condition for Bidders.  |
| 2.6.8 Corrupt or<br>Fraudulent<br>Practices                                  | i)          | <ul> <li>The Procuring Agency requires that Bidders, Suppliers, and Contractors observe the highest standard of ethics during the procurement and execution of contracts. For the purposes of this provision, the terms set forth below are defined as follows:</li> <li>(a) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official, bidder or Contractor in the procurement process or in contract execution; and</li> </ul> |
|  |             | (b) "fraudulent practice" means a misrepresentation of facts in order to<br>influence a procurement process or the execution of a contract to the<br>detriment of the Procuring Agency,   |
|  |             | (c) "collusive practice" is an arrangement among bidders (prior to or<br>after bid submission) designed to establish bid prices at artificial,<br>non-competitive levels for any wrongful gains, and to deprive the<br>Procuring Agency of the benefits of free and open competition and<br>any request for, or solicitation of anything of value by any public   |

| <ul> <li>of the following:</li> <li>i. Coercive practice by impairing or harming, or threatening to impair harm, directly or indirectly, any party or the property of the party influence the actions of a party to achieve a wrongful gain or to cause wrongful loss to another party;</li> <li>ii. Collusive practice by arrangement between two or more parties to t procurement process or Contract execution, designed to achieve with without the knowledge of the procuring agency to establish prices artificial, noncompetitive levels for any wrongful gain;</li> <li>iii. Offering, giving, receiving or soliciting, directly or indirectly, of anythir of value to influence the acts of another party for wrongful gain;</li> <li>iv. Any act or omission, including a misrepresentation, that knowingly recklessly misleads, or attempts to mislead, a party to obtain a financi or other benefit or to avoid an obligation;</li> <li>v. Obstructive practice by harming or threatening to harm, directly indirectly, persons or their property to influence their participation in procurement process, or affect the execution of a Contract or deliberate destroying, falsifying, altering or concealing of evidence material to t investigation or making false statements before investigators in order materially impede an investigation into allegations of a corrup fraudulent, coercive or collusive practice; or threatening, harassing intimidating any party to prevent it from disclosing its knowledge matters relevant to the investigation or from pursuing the investigation or acts intended to materially impede the exercise of inspection and aut process."</li> </ul>   |   |
|--|---|
| <ul> <li>i. Coercive practice by impairing or harming, or threatening to impair harm, directly or indirectly, any party or the property of the party influence the actions of a party to achieve a wrongful gain or to cause wrongful loss to another party;</li> <li>ii. Collusive practice by arrangement between two or more parties to the procurement process or Contract execution, designed to achieve with without the knowledge of the procuring agency to establish prices artificial, noncompetitive levels for any wrongful gain;</li> <li>iii. Offering, giving, receiving or soliciting, directly or indirectly, of anythin of value to influence the acts of another party for wrongful gain;</li> <li>iv. Any act or omission, including a misrepresentation, that knowingly recklessly misleads, or attempts to mislead, a party to obtain a financi or other benefit or to avoid an obligation;</li> <li>v. Obstructive practice by harming or threatening to harm, directly indirectly, persons or their property to influence their participation in procurement process, or affect the execution of a Contract or deliberate destroying, falsifying, altering or concealing of evidence material to t investigation or making false statements before investigators in order materially impede an investigation into allegations of a corrup fraudulent, coercive or collusive practice; or threatening, harassing intimidating any party to prevent it from disclosing its knowledge matters relevant to the investigation or from pursuing the investigation or acts intended to materially impede the exercise of inspection and aud process."</li> </ul>  | official in the course of the exercise of his duty; it may include any of the following:  |
| <ul> <li>iii. Offering, giving, receiving or soliciting, directly or indirectly, of anythin of value to influence the acts of another party for wrongful gain;</li> <li>iv. Any act or omission, including a misrepresentation, that knowingly recklessly misleads, or attempts to mislead, a party to obtain a financi or other benefit or to avoid an obligation;</li> <li>v. Obstructive practice by harming or threatening to harm, directly indirectly, persons or their property to influence their participation in procurement process, or affect the execution of a Contract or deliberate destroying, falsifying, altering or concealing of evidence material to t investigation or making false statements before investigators in order materially impede an investigation into allegations of a corrup fraudulent, coercive or collusive practice; or threatening, harassing intimidating any party to prevent it from disclosing its knowledge matters relevant to the investigation or from pursuing the investigatio or acts intended to materially impede the exercise of inspection and aud process."</li> <li>ii) Blacklisting &amp; Debarment:</li> <li>Blacklisted Consultants and those found involved in "Corrupt Practices" are n allowed to participate in bidding.</li> <li>Requirements &amp; Procedure for Blacklisting &amp; Debarment:</li> <li>Asper As per S-17A of PPRA, Act, 2009:</li> <li>"17A. Blacklisting (1) A procuring agency may, for a specified period and in the prescribe manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice or any other prescribed practice.</li> <li>(2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of all or some of the procuring for any public procurement process of all or some of the procuring for any public procurement process of all or some of the procuring for any public procurement process</li></ul>          | ii. Collusive practice by arrangement between two or more parties to the<br>procurement process or Contract execution, designed to achieve with or<br>without the knowledge of the procuring agency to establish prices at  |
| <ul> <li>recklessly misleads, or attempts to mislead, a party to obtain a financi or other benefit or to avoid an obligation;</li> <li>v. Obstructive practice by harming or threatening to harm, directly indirectly, persons or their property to influence their participation in procurement process, or affect the execution of a Contract or deliberate destroying, falsifying, altering or concealing of evidence material to t investigation or making false statements before investigators in order materially impede an investigation into allegations of a corrup fraudulent, coercive or collusive practice; or threatening, harassing intimidating any party to prevent it from disclosing its knowledge matters relevant to the investigation or from pursuing the investigatio or acts intended to materially impede the exercise of inspection and aud process."</li> </ul> <b>ii) Blacklisting &amp; Debarment:</b> Blacklisted Consultants and those found involved in "Corrupt Practices" are n allowed to participate in bidding. <b>Requirements &amp; Procedure for Blacklisting &amp; Debarment:</b> Asper As per S-17A of PPRA, Act, 2009: <b>"17A. Blacklisting.</b> (1) A procuring agency may, for a specified period and in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice or any other prescribed practice. (2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of all or some of the procuring from any public procurement process of all or some of the procuring from any public procurement process of all or some of the procuring from any public procurement process of all or some of the procuring from practice.  | iii. Offering, giving, receiving or soliciting, directly or indirectly, of anything   |
| <ul> <li>v. Obstructive practice by harming or threatening to harm, directly indirectly, persons or their property to influence their participation in procurement process, or affect the execution of a Contract or deliberate destroying, falsifying, altering or concealing of evidence material to t investigation or making false statements before investigators in order materially impede an investigation into allegations of a corrup fraudulent, coercive or collusive practice; or threatening, harassing intimidating any party to prevent it from disclosing its knowledge matters relevant to the investigation or from pursuing the investigation or acts intended to materially impede the exercise of inspection and aud process."</li> <li>ii) Blacklisting &amp; Debarment:</li> <li>Blacklisted Consultants and those found involved in "Corrupt Practices" are n allowed to participate in bidding.</li> <li>Requirements &amp; Procedure for Blacklisting &amp; Debarment:</li> <li>Asper As per S-17A of PPRA, Act, 2009:</li> <li>"17A. Blacklisting(1) A procuring agency may, for a specified period and in the prescribe manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice or any other prescribed practice.</li> <li>(2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of all or some of the procuring from participating in any public procurement procurement process of all or some of the procuring from participating in any public procurement procurement process of all or some of the procuring from participating in any public procurement process of all or some of the procuring from participating in any public procurement process of all or some of the procuring from participating in any public procurement process of all or some of the procuring from participating in any public procurement process of all or some of the procuring</li></ul> | iv. Any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial  |
| <ul> <li>materially impede an investigation into allegations of a corrup fraudulent, coercive or collusive practice; or threatening, harassing intimidating any party to prevent it from disclosing its knowledge matters relevant to the investigation or from pursuing the investigation or acts intended to materially impede the exercise of inspection and aud process."</li> <li><b>ii) Blacklisting &amp; Debarment:</b> Blacklisted Consultants and those found involved in "Corrupt Practices" are n allowed to participate in bidding.</li> <li><b>Requirements &amp; Procedure for Blacklisting &amp; Debarment:</b> Asper As per S-17A of PPRA, Act, 2009:</li> <li><b>*17A. Blacklisting.</b> – (1) A procuring agency may, for a specified period and in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice or any other prescribed practice.</li> <li>(2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of all or some of the procuring</li> </ul>   | v. Obstructive practice by harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a Contract or deliberately destroying, falsifying, altering or concealing of evidence material to the  |
| <ul> <li>Blacklisted Consultants and those found involved in "Corrupt Practices" are n allowed to participate in bidding.</li> <li>Requirements &amp; Procedure for Blacklisting &amp; Debarment:<br/>Asper As per S-17A of PPRA, Act, 2009:</li> <li>"17A. Blacklisting. – (1) A procuring agency may, for a specified period and in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice or any other prescribed practice.</li> <li>(2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procuring agency of all or some of the procuring</li> </ul>   | materially impede an investigation into allegations of a corrupt,<br>fraudulent, coercive or collusive practice; or threatening, harassing or<br>intimidating any party to prevent it from disclosing its knowledge of<br>matters relevant to the investigation or from pursuing the investigation,<br>or acts intended to materially impede the exercise of inspection and audit |
| <ul> <li>Blacklisted Consultants and those found involved in "Corrupt Practices" are n allowed to participate in bidding.</li> <li>Requirements &amp; Procedure for Blacklisting &amp; Debarment:<br/>Asper As per S-17A of PPRA, Act, 2009:</li> <li>"17A. Blacklisting. – (1) A procuring agency may, for a specified period and in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice or any other prescribed practice.</li> <li>(2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procuring agency of all or some of the procuring</li> </ul>   | ii) Blacklisting & Debarment:   |
| <ul> <li>Asper As per S-17A of PPRA, Act, 2009:</li> <li>"17A. Blacklisting. – (1) A procuring agency may, for a specified period and in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice or any other prescribed practice.</li> <li>(2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procuring agency of all or some of the procuring</li> </ul>  | Blacklisted Consultants and those found involved in "Corrupt Practices" are not   |
| <ul> <li>"17A. Blacklisting. – (1) A procuring agency may, for a specified period and in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice or any other prescribed practice.</li> <li>(2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of all or some of the procuring</li> </ul>   |   |
| (2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of all or some of the procuring   | <b>"17A. Blacklisting.</b> – (1) A procuring agency may, for a specified period and in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice   |
|  | (2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of all or some of the procuring  |
| <ul> <li>(3) Any person, aggrieved from a decision of a procuring agency, may within prescribed period prefer a representation before the Managing Director.</li> <li>(4) A procuring agency or any other person, aggrieved from a decision of the Managing</li> </ul>   | (3) Any person, aggrieved from a decision of a procuring agency, may within prescribed period prefer a representation before the Managing Director.   |
| Director, may within prescribed period prefer a representation before the Chairperson<br>whose decision on such representation shall be final.]<br>As per rule 21 of PPR-14:   | Director, may within prescribed period prefer a representation before the Chairperson whose decision on such representation shall be final.]  |
| <ul> <li>21. Blacklisting(1) A procuring agency may, for a specified period, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor has:</li> </ul>  | <b>21. Blacklisting.</b> –(1) A procuring agency may, for a specified period, debar a bidder or Contractor from participating in any public procurement process of the procuring  |
| <ul><li>(a) acted in a manner detrimental to the public interest or good practices;</li><li>(b) consistently failed to perform his obligation under the Contract;</li></ul>  | <ul><li>(a) acted in a manner detrimental to the public interest or good practices;</li><li>(b) consistently failed to perform his obligation under the Contract;</li></ul>   |
| I not performed the Contract up to the mark: or  | I not performed the Contract up to the mark; or   |
| (d) indulged in any corrupt practice.  | (d) indulged in any corrupt practice.   |

| (a) shall forward the decision to the Authority for publication on the website of the Authority;   |
|--|
| and<br>(b) may request the Authority to debar the bidder or Contractor for procurement of all  |
| (b) may request the Authority to debar the bldder or Contractor for procurement of an procuring agencies.  |
| (3) The Managing Director may debar a bidder or Contractor of any procuring agency from  |
| participating in any public procurement process of all or some of the procuring agencies   |
| for such period as the Managing Director may determine.  |
| (4) Any person aggrieved by a declaration made under rule 20 or a decision under sub-rule (1)  |
| of this rule may, within thirty days from the date of the publication of the information on<br>the website of the Authority, file a representation before the Managing Director and the                |
| Managing Director may pass such order on the representation as he may deem fit.  |
| (5) Any person or procuring agency aggrieved by an order under sub-rule (3) or (4) may, within   |
| thirty days of the order, file a representation before the Chairperson and the Chairperson   |
| may pass such order on the representation as he may deem appropriate.  |
| (6) The mechanism or process for barring a bidder or Contractor from participating in  |
| procurement process of a procuring agency, procuring agencies and a representation<br>under this rule is specified in the Schedule appended to these rules.  |
| As per Schedule appended with PPR-14:  |
| SCHEDULE   |
| see sub-rule (6) of rule 21  |
| BLACKLISTING MECHANISM OR PROCESS  |
| 1. The procuring agency may, on information received from any resource, issue show cause notice to a bidder or Contractor.   |
| <ol> <li>The show cause notice shall contain:</li> </ol>   |
| <ul><li>(a) precise allegation, against the bidder or Contractor;</li></ul>  |
| (b) the maximum period for which the procuring agency proposes to debar the bidder or  |
| Contractor from participating in any public procurement of the procuring agency; and   |
| I the statement, if needed, about the intention of the procuring agency to make a request to   |
| the Authority for debarring the bidder or Contractor from participating in public procurements of all the procuring agencies.  |
| 3. The procuring agency shall give minimum of seven days to the bidder or Contractor for   |
| submission of written reply of the show cause notice.  |
| 4. In case, the bidder or Contractor fails to submit written reply within the requisite time,  |
| the procuring agency may issue notice for personal hearing to the bidder or Contractor/  |
| authorize representative of the bidder or Contractor and the procuring agency shall  |
| <ul><li>decide the matter on the basis of available record and personal hearing, if availed.</li><li>5. In case the bidder or Contractor submits written reply of the show cause notice, the</li></ul> |
| procuring agency may decide to file the matter or direct issuance of a notice to the   |
| bidder or Contractor for personal hearing.   |
| 6. The procuring agency shall give minimum of seven days to the bidder or Contractor for   |
| appearance before the specified officer of the procuring agency for personal hearing.  |
| 7. The procuring agency shall decide the matter on the basis of the available record and personal hearing of the bidder or Contractor, if availed.   |
| 8. The procuring agency shall decide the matter within fifteen days from the date of   |
| personal hearing unless the personal hearing is adjourned to a next date and in  |
| such an eventuality, the period of personal hearing shall be reckoned from the last date   |
| of personal hearing.   |
| 9. The procuring agency shall communicate to the bidder or Contractor the order of deheming the hidder or Contractor from participating in any public procuragement with a                             |
| debarring the bidder or Contractor from participating in any public procurement with a statement that the bidder or Contractor may, within thirty days, prefer a representation                        |
| against the order before the Managing Director of the Authority.   |
| 10. The procuring agency shall, as soon as possible, communicate the order of blacklisting   |
| to the Authority with the request to upload the information on its website.  |
| 11. If the procuring agency wants the Authority to debar the bidder or Contractor from   |
| participating in any public procurement of all procuring agencies, the procuring agency shall specify reasons for such dispensation.   |
| 12. The Authority shall immediately publish the information and decision of blacklisting on  |
| its website.   |
| 13. In case of request of a procuring agency under para 11 or representation of any  |
| aggrieved person under rule 21, the Managing Director shall issue a notice for personal  |
| hearing to the parties and call for record of proceedings of blacklisting. The parties may   |
| <ul><li>file written statements and documents in support of their contentions.</li><li>14. In case of representation of any aggrieved person or procuring agency under rule 21, the</li></ul>          |
| Chairperson shall issue a notice for personal hearing to the parties and may call for the  |
|  |

|       |              |      | record of the proceedings. The parties may file written statements and documents in support of their contentions.   |
|-------|--------------|------|---|
|       |              | 15.  | In every order of blacklisting under rule 21, the procuring agency shall record reasons of blacklisting and also reasons for short, long or medium period of blacklisting.  |
|       |              | 16.  | The Authority shall upload all the decisions under rule 21, available with it, on its website. But the name of a bidder or Contractor shall immediately be removed from the list of blacklisted persons on expiry of period of blacklisting or order of the competent authority to that effect, whichever is earlier. |
|       |              | 17.  | An effort shall be made for electronic communication of all the notices and other documents pursuant to this mechanism or process."   |
|       |              | iii) | Furthermore, Bidders must keep themselves aware of the provision stated in clause 5.4 and clause 24.1 of the General Conditions of Contract.  |
| 2.6.9 | Verification | i)   | Procuring agency can verify any or all documents / information submitted<br>by the bidder. In case of bogus documents and wrong information the same<br>would not be considered for evaluation and the bid will be rejected.  |

# Section-III. Technical Specifications

**3.1. Technical Specifications** 

Note: (1) It is mandatory for Bidder to present pre-delivery demonstration/ Inspection to the Procuring Agency at bidder's cost. Operational manual and maintenance manual in English language both in pdf format and hard form are mandatory for all machinery, equipment, apparatus, instruments.
(2) Manufacturer's Authorization letter is mandatory for each equipment costing more than Rs. 20,000/-. Equipments of higher specifications will also be accepted.

#### **Electrical Circuit & Electronics Labs**

#### **Electrical Circuit Lab**

| <b>S.</b> # | Description  | Quantity |
|-------------|--|----------|
| 1           | Basic Circuit Trainers   | 10       |
|             | Base Unit with module capable of performing following experiments / features               |          |
|             | <ul> <li>Resistor Characteristics</li> </ul>   |          |
|             | <ul> <li>Using An Ohmmeter</li> </ul>  |          |
|             | <ul> <li>DC Voltage Measurement</li> </ul>   |          |
|             | <ul> <li>DC Current Measurement</li> </ul>   |          |
|             | <ul> <li>Ohm's Law</li> </ul>  |          |
|             | <ul> <li>Power in DC Circuit</li> </ul>  |          |
|             | <ul> <li>Series-Parallel Network and Kirchhoff's Law</li> </ul>                            |          |
|             | <ul> <li>Superposition, Thevenin's and Norton's Theorems</li> </ul>                        |          |
|             | <ul> <li>Maximum Power Transfer Theorem</li> </ul>   |          |
|             | <ul> <li>DC RC Circuit and Transient Phenomena</li> </ul>                                  |          |
|             | <ul> <li>AC Voltage Measurement</li> </ul>   |          |
|             | <ul> <li>AC Current Measurement</li> </ul>   |          |
|             | <ul> <li>AC RC Circuit</li> </ul>  |          |
|             | • AC RL Circuit  |          |
|             | <ul> <li>AC RLC Circuit</li> </ul>   |          |
|             | <ul> <li>Power in AC Circuit</li> </ul>  |          |
|             | <ul> <li>Transformer Characteristics</li> </ul>  |          |
|             | <ul> <li>Series-Resonant Circuit</li> </ul>  |          |
|             | Parallel-Resonant Circuit  |          |
|             | <ul> <li>LC Filter</li> </ul>  |          |
|             | Simulation Software  |          |
| 2           | Network Trainer  | 10       |
| 2           | Base Unit with at least 3-4 modules capable of performing following experiments / features |          |
|             | <ul> <li>Application of Ohm's law</li> </ul>   |          |
|             | <ul> <li>Series dc circuit</li> </ul>  |          |
|             | <ul> <li>Parallel dc circuit</li> </ul>  |          |
|             | <ul> <li>Combination dc circuit</li> </ul>   |          |
|             | <ul> <li>Power in dc circuit</li> </ul>  |          |
|             | <ul> <li>Voltage divider circuit</li> </ul>  |          |
|             | <ul> <li>Kirchhoff's Voltage Law (KVL)</li> </ul>  |          |
|             | <ul> <li>Kirchhoff's Current Law, (KCL)</li> </ul>   |          |
|             | <ul> <li>Superposition theorems</li> </ul>   |          |
|             | <ul> <li>Norton's Theorems</li> </ul>  |          |
|             | <ul> <li>Theorem</li> </ul>  |          |
|             | <ul> <li>Norton's Theorems</li> </ul>  |          |
|             | <ul> <li>Maximum power transfer</li> </ul>   |          |
|             | <ul> <li>DC bridge circuits</li> </ul>   |          |
|             | <ul> <li>Transient in series RC networks</li> </ul>  |          |
|             | <ul> <li>Transient in series RL networks</li> </ul>  |          |
|             | <ul> <li>PTC &amp; NTC Thermistor</li> </ul>   |          |
|             | <ul> <li>Resistor in AC Circuit</li> </ul>   |          |
|             | <ul> <li>Inductor in AC Circuit</li> </ul>   |          |
|             |  |          |
|             |  |          |
|             | R-L Series in AC Circuit   |          |
|             | <ul> <li>R-C Series in AC Circuit</li> <li>D-L C Series in AC Circuit</li> </ul>           |          |
|             | R-L-C Series in AC Circuit   |          |
|             | R-L Parallel in AC Circuit   |          |

| <ul> <li>R-L-C Paullel in AC Creuit</li> <li>Serie Resonance Circuit</li> <li>Parallel Resonance Circuit</li> <li>To Determine the Inductive Reactance Value</li> <li>Magnetic Circuit</li> <li>No Load Transformer</li> <li>Load in Transformer</li> <li>DC RC Circuit</li> <li>AC RL Circuit</li> <li>AC RL Circuit</li> <li>AC RL Circuit</li> <li>Parallel Resonant Circuit</li> <li>Parallel Resonant Circuit</li> <li>Parallel Resonant Circuit</li> <li>Parallel Resonant Circuit</li> <li>Passive RC Low Pass Filter</li> <li>Passive RC Band Pass Filter</li> <li>Bandwidth: 150 MHz</li> <li>Rise Time (at input, typical): ≤ 3.5 ns</li> <li>Horizontal Scale: 2 ns/dtv - 1000 s/dtv, step by 1-2-5</li> <li>Samplie rate (real time): 1 GSS</li> <li>Display: 7" Colored LCD (Liquid Crystal Display).65536 colors, 800 x 480 pixels</li> <li>Channel: 2 ahannels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input impedance: 1 MAL 27%, in parallel with 20 pFL5 pF</li> <li>Max, input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: =3%</li> <li>Vertical Sensitivity: 5 mV/dtv = 5 V/div</li> <li>Trigger type: Edge, Video</li> <li></li></ul>   |   |  |    |
|---|---|--|----|
| <ul> <li>Series Resonance Circuit</li> <li>Parallel Resonance Circuit</li> <li>To Determine the Inductive Reactance Value</li> <li>Magnetic Circuit</li> <li>No Load Transformer</li> <li>Load in Transformer</li> <li>Det C Circuit</li> <li>AC RC Circuit</li> <li>AC RC Circuit</li> <li>AC RL Circuit</li> <li>Parallel Resonant Circuit</li> <li>Passive RC Lor Pass Filter</li> <li>Passive RC High Pass Filter</li> <li>Passive RC High Pass Filter</li> <li>Passive RC High Pass Filter</li> <li>Series Resonant Circuit</li> <li>Series Resonant Circuit</li> <li>Passive RC High Pass Filter</li> <li>Passive RC High Pass Filter</li> <li>Simulation Software</li> <li>Digital Storage Oscilloscope (DSO)</li> <li>Bandwidth: 150 MHz</li> <li>Rise Time (at input, typical): ≤ 3.5 ns</li> <li>Horizontal Scale: Jackiw - 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 7° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Chamel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 1000 s/div, in parallel with 20 pF15 pF</li> <li>Max, input roblage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: =3%</li> <li>V vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger Hype: Edge, Video</li> <li>Trigger Hype: Edge, V</li></ul>   |   | <ul> <li>R-C Parallel in AC Circuit</li> </ul>   |    |
| <ul> <li>Parallel Resonance Circuit</li> <li>To Determine the Inductive Reactance Value</li> <li>Magnetic Circuit</li> <li>No Load Transformer</li> <li>Load in Transformer</li> <li>D CR C Circuit</li> <li>AC RL Circuit</li> <li>AC RL Circuit</li> <li>AC RL Circuit</li> <li>Parallel Resonant Circuit</li> <li>Parallel Resonant Circuit</li> <li>Passive RC Haph Pass Filter</li> <li>Passive RC Band Pass Filter</li> <li>Passive RC Haph Pass Filter</li> <li>Passive RC Haph Pass Filter</li> <li>Passive RC Haph Pass Filter</li> <li>Bandwidth: 150 MHz</li> <li>Biophay: 70° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 hannels</li> <li>Max Record length: 10K</li> <li>Sampling rate / radix furthy time accuracy: ±100 ppm</li> <li>Input impedance: 1 M2L2%, in parallel with 20 pFL5 pF</li> <li>Max, input volage: 400V (DC+AC, PK - PK)</li> <li>DC Guin Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div - 5 V/div</li> <li>Träger type: Edge, Video</li> <li>Trager type: Edg</li></ul>   |   | <ul> <li>R-L-C Parallel in AC Circuit</li> </ul>                                       |    |
| <ul> <li>To Determine the Inductive Reactance Value</li> <li>Magnetic Circuit</li> <li>No Load Transformer</li> <li>Load in Transformer</li> <li>DC RC Circuit</li> <li>AC RC Circuit</li> <li>AC RC Circuit</li> <li>AC RL Circuit</li> <li>Parallel Resonant Circuit</li> <li>Pasive RC High Pass Filter</li> <li>Pasive RC High Pass Filter</li> <li>Pasive RC High Pass Filter</li> <li>Series Resonant Circuit</li> <li>Starsive RC Band Pass Filter</li> <li>Pasive RC High Pass Filter</li> <li>Simulation Software</li> <li>Objettal Storage Oscilloscope (DSO)</li> <li>Bandwidth: 150 MHz</li> <li>Rise Time (cat input, typical):≤ 3.5 ns</li> <li>Horizontal Scale: J rokdw - 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: "Colored LCD (Liquid Crystal Display),65336 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input unpedance: 10M2-2%, in parallel with 20 pF±5 pF</li> <li>Max, input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accurage: :35%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Tragger type: Edge, Video</li> <li>Tragger type: Edge, Video</li></ul>   |   | <ul> <li>Series Resonance Circuit</li> </ul>   |    |
| <ul> <li>To Determine the Inductive Reactance Value</li> <li>Magnetic Circuit</li> <li>No Load Transformer</li> <li>Load in Transformer</li> <li>DC RC Circuit</li> <li>AC RC Circuit</li> <li>AC RC Circuit</li> <li>AC RL Circuit</li> <li>Parallel Resonant Circuit</li> <li>Pasive RC High Pass Filter</li> <li>Pasive RC High Pass Filter</li> <li>Pasive RC High Pass Filter</li> <li>Series Resonant Circuit</li> <li>Starsive RC Band Pass Filter</li> <li>Pasive RC High Pass Filter</li> <li>Simulation Software</li> <li>Objettal Storage Oscilloscope (DSO)</li> <li>Bandwidth: 150 MHz</li> <li>Rise Time (cat input, typical):≤ 3.5 ns</li> <li>Horizontal Scale: J rokdw - 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: "Colored LCD (Liquid Crystal Display),65336 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input unpedance: 10M2-2%, in parallel with 20 pF±5 pF</li> <li>Max, input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accurage: :35%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Tragger type: Edge, Video</li> <li>Tragger type: Edge, Video</li></ul>   |   | <ul> <li>Parallel Resonance Circuit</li> </ul>   |    |
| • Magnetic Circuit         • No Load Transformer         • DC RC Circuit         • AC RL Circuit         • AC RL Circuit         • AC RL Circuit         • AC RL Circuit         • Parallel Resonant Circuit         • Parallel Resonant Circuit         • Passive RC Low Pass Filter         • Passive RC Ed Pass Filter         • Passive RC Band Pass Filter         • Bandwidti: 150 MHz         • Rise Time (at input, typical): 5.5 ns         • Horizontal Scule: 2 ns/div - 1000 s/div, step by 1-2-5         • Sampling rate / real time): 1 GS%         • Display: 7° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         • Channel: 2 channels         • Max. Record length: 10K         • Sampling rate / really time accuracy: ±100 ptm         • Input coupling: DC, AC, Ground         • Input coupling: DC, AC, Ground         • Input coupling: DC, AC, Ground         • Trigger mode: Auto, Normal, Single         • Line/field frequency (Video): Support standard NTSC, PAL and SECAM broudcast systems         • Automatic measurement: Period, Frequency, Man, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshout, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         • Waveform Mati: + -, -×, -, FFT         • Waveform storge: 16 waveforms         • Communication inter  |   |  |    |
| • No Load Irransformer         • Load in Transformer         • DC RC Circuit         • A C RL Circuit         • A C RL Circuit         • Partiella Resonant Circuit         • Passive RC High Pass Filter         • Passive RC Bod Pass Filter         • Bandwidth: 150 MHz         • Rise Time (at input, typical): ≤ 3.5 ns         • Horizontal Scale: 2 ns/div - 1000 s/div, step by 1-2-5         • Sampling rate (real time): 1 GS/s         • Display: 7° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         • Channel: 2 channels         • Max Record length: 10K         • Sampling rate (real time): 1 GS/s         • Display: 7° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         • Channel: 2 channels         • Max Record length: 10K         • Sampling rate (real time): 1 GS/s         • Display: 7° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         • Channel: 2 channels         • Max Record length: 10K         • Sampling rate (realy time accuracy: ±100 ppm         • Input impedance: 1 M£1/2%, in parallel with 20 pF±5 pF         • Max input volage: 400V (DCF AC; PK - PK)  |   |  |    |
| • Load in Transformer         • DC RC Circuit         • AC RC Circuit         • AC RL Circuit         • AC RL Circuit         • AC RL Circuit         • Parallel Resonant Circuit         • Passive RC Hap Pass Filter         • Bandwidh: 150 MHz         • Rise Time (at input, typical): ≤ 3.5 ns         • Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5         • Samplic rate (real time): 1 GS/s         • Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         • Channel: 2 channels         • Max Record length: 10K         • Sampling rate / relay time accuracy: ±100 ppm         • Input coupling: C, AC, Ground         • Input coupling: C, AC, Cound         • Input coupling: C, AC, Cound         • Input coupling: C, AC, Cound         • Trigger type: Edge, Vidao  |   |  |    |
| • DC RC Grouit       • AC RL Circuit         • AC RL Circuit       • AC RL Circuit         • Parallel Resonant Circuit       • Series Resonant Circuit         • Passive RC Low Pass Filter       • Passive RC Circuit Pass Filter         • Passive RC End Pass Filter       • Passive RC Circuit Pass Filter         • Passive RC End Pass Filter       • Passive RC Bond Pass Filter         • Bandwidth: 150 MHz       10         • Bandwidth: 150 MHz       10         • Rise Time (at input, typical): ≤ 3.5 ns       • Horizontal Scale: 2 ns/dw - 1000 s/dw, step by 1-2-5         • Samplin rate (real time): 1 GS/s       • Display: "C Clored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         • Channel: 2 channels       • Max Record length: 10K         • Sampling rate (realty time accuracy: ±100 ppm       • Input coupling: DC, AC, Ground         • Input coupling: DC, AC, Ground       • Input coupling: DC, AC, Ground         • Input coupling: DC, AC, Ground       • Trigger type: Edge, Video         • Trigger type: Edge, Video       • Trigger type: Edge, Video         • Trigger type: Edge, Video       • Trigger type: Edge, Video         • Trigger mode: Auto, Normal, Single       • Lincifield frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems         • Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Ampliude, Overshout, Pre-bloe Adet, Rise Ledge   |   |  |    |
| • AC RC Circuit       • AC RL Circuit         • AC RL Circuit       • Parallel Resonant Circuit         • Parallel Resonant Circuit       • Passive RC Low Pass Filter         • Passive RC Low Pass Filter       • Passive RC Halp Pass Filter         • Passive RC Halp Pass Filter       • Passive RC Halp Pass Filter         • Passive RC Halp Pass Filter       • Passive RC Halp Pass Filter         • Passive RC Halp Pass Filter       • Passive RC Halp Pass Filter         • Bandwidht: 150 MHz       • Rise Time (at time): 1 GS's         • Display: 7° Colord LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         • Channel: 2 channels       • Max Record length: 10K         • Max Record length: 10K       • Sampling rate / relay time accuracy: =100 ppm         • Input mpedance: 1 M2±2%, in parallel with 20 pF±5 pF       • Max. input voltage: 400V (DC+AC, PK - PK)         • D C Gain Accuracy ±3%       • Vertical Sensitivity: 5 mV/div – 5 V/div         • Trigger rupe: Edge, Video       • Trigger rupe: Edge, Video         • Trigger rupe: Edus, Video       • Size Frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems         • Automatic measurement: Period, Frequency, Maan, PK-FK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         • Waveform Math: +, -, -, ×, +, FT       • Waveform storage: 16 waveforms         • CH1: 0-   |   |  |    |
| <ul> <li>A C RL Circuit</li> <li>A C RL Circuit</li> <li>Parallel Resonant Circuit</li> <li>Parallel Resonant Circuit</li> <li>Passive RC High Pass Filter</li> <li>Simulation Software</li> <li>Digital Storage Oscillacope (DSO)</li> <li>Bandwidth: 150 MHz</li> <li>Rise Time (at input, typical): ≤ 3.5 ns</li> <li>Horizontal Scale: 2 ns/div - 1000 s/div, step by 1-2-5</li> <li>Sampler rate (real time): 1 GS/s</li> <li>Display: 7' Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input impedance: 1 MΩ+2%, in parallel with 20 pE±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 m/vliw - 5 V/div</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Lineffeld frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshool, Pre-shool, Rise Time, Fall Time, +Pulse Width, +Duty Cycle, Juty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Dulse Count, Pulse Edge Cont, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, +, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 0-3V, 5A</li> <li>CH3: 0-5V/RCP Function</li> <li>Number of Characters: 16</li> <li>Function Generator<td></td><td></td><td></td></li></ul>   |   |  |    |
| <ul> <li>A C RLC Circuit</li> <li>Parallel Resonant Circuit</li> <li>Series Resonant Circuit</li> <li>Passive RC Low Pass Filter</li> <li>Passive RC Band Pass Filter</li> <li>Passive RC Band Pass Filter</li> <li>Simulation Software</li> <li>Digital Storage Oscilloscope (DSO)</li> <li>Bandwidth: 150 MHz</li> <li>Rise Time (at input, typical): ≤ 3.5 ns</li> <li>Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 7' Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input impedance: 1 MD±2<sup>2</sup>/s, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, FK - PK)</li> <li>DC Gain Accuracy: ±3<sup>3</sup>/s</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger rupe: Liqe, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger toyle: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency (Mean, PK-PK, RMS, Max, Min, Top, Base, Anaplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Edge Count, Rise Edge Cut, Area, and Cycle Area.</li> <li>Waveform Math: +, -, -, ×, -, FFT</li> <li>Waveform Mather +, -, ×, -, FFT</li> <li>Waveform Mather +, -, ×, -, FFT</li> <li>Waveform Mather +, MAS</li></ul>   |   |  |    |
| • Parallel Resonant Circuit         • Series Resonant Circuit         • Passive RC High Pass Filter         • Passive RC High Pass Filter         • Passive RC High Pass Filter         • Simulation Software         3       Digital Storage Oscilloscope (DSO)         • Bandwidht: 150 MHz         • Rise Time (at input, typical): ≤ 3.5 ns         • Horizontal Scale: 2 nx/div - 1000 x/div, step by 1-2-5         • Sample rate (real time): 1 GS/s         • Display: 7° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         • Channel: 2 channels         • Max Record length: 10K         • Sampling rate / relay time accuracy: ±100 ppm         • Input coupling: DC, AC, Ground         • Input ecupling: DC, AC, Ground         • Input ecupling: DC, AC, Ground         • Input sege: 400V (DC+AC, PK - PK)         • DC Gain Accuracy: ±3%         • Vertical Sensitivity: 5 ml/div – 5 V/div         • Trigger type: Edge, Video         • Turiger type: Edge, Video         • Unie/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems         • Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         • Waveform Math +, -, -, +, +FT         • Waveform Math: +, -, -, +, +FT <td></td> <td>AC RL Circuit</td> <td></td>  |   | AC RL Circuit  |    |
| <ul> <li>Series Resonant Circuit</li> <li>Passive RC Low Pass Filter</li> <li>Passive RC Band Pass Filter</li> <li>Passive RC Band Pass Filter</li> <li>Simulation Software</li> <li>Digital Storage Oscilloscope (DSO)</li> <li>Bandwidth: 150 MHz</li> <li>Rise Time (at input, typical): ≤ 3.5 ns</li> <li>Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 7° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input impedance: 1 Md2+2%, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 m/Vdiv – 5 V/div</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, Jobity Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Streen Duty, Phase, +Pulse Count, -Pitse Fire, Fall Time, +Pulse Width, -Pulse Width, -Pulse Width, -Pulse Waveform Math: +, -, ×, +, FFT</li> <li>Waveform Math: +, -, ×, +, FFT</li> <li>Waveform storage: 16 Waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH3: 5V, 5A</li> <li>CH3: 5V, 5A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li></li></ul>   |   | AC RLC Circuit   |    |
| <ul> <li>Series Resonant Circuit</li> <li>Passive RC Low Pass Filter</li> <li>Passive RC Band Pass Filter</li> <li>Passive RC Band Pass Filter</li> <li>Simulation Software</li> <li>Digital Storage Oscilloscope (DSO)</li> <li>Bandwidth: 150 MHz</li> <li>Rise Time (at input, typical): ≤ 3.5 ns</li> <li>Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 7° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input impedance: 1 MG2±26x, in parallel with 20 pf±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>D C Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 m/vliw – 5 V/div</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshout, Pre-shoot, Rise Time, Fall Time, +Pulse Width, +Dulse Width, +Dusy Cycle, Joury Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Court, Files Edge Cut, Fall Edge Cut, Area, and Cycle Area.</li> <li>Waveform Mati: +, -, ×, +, FT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CotH: 0-30V, 5A</li> <li>CH3: SV, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> <li>Function Generator</li> <li>Regulated DC Power Supply (SBM, Adisk and local storage</li> </ul>  |   | Parallel Resonant Circuit  |    |
| • Passive RC Low Pass Filter       • Passive RC High Pass Filter         • Simulation Software       • • • • • • • • • • • • • • • • • • •  |   |  |    |
| <ul> <li>Passive RC High Pass Filter</li> <li>Passive RC Band Pass Filter</li> <li>Simulation Software</li> <li>Digital Storage Oscilloscope (DSO)</li> <li>Bandwidth: 150 MHz</li> <li>Rise Time (at input, typical): ≤ 3.5 ns</li> <li>Horizontal Scale: 2 ns/div - 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF</li> <li>Max, neurol length: 10K</li> <li>Sampting rate / velay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF</li> <li>Max, input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div - 5 V/div</li> <li>Trigger type: Edge, Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Edge Cnt, Falls Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, x, +, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> <li><b>5 Function Generator</b></li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>- 5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse Y, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequen</li></ul>  |   |  |    |
| <ul> <li>Passive RC Band Pass Filter</li> <li>Simulation Software</li> <li>3 Digital Storage Oscilloscope (DSO)</li> <li>Bandwidth: 150 MHz</li> <li>Rise Time (at input, typical): ≤ 3.5 ns</li> <li>Horizontal Scale: 2 ns/div - 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input impedance: 1 Mx2%, in parallel with 20 pF±5 pF</li> <li>Max, input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Anaplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Sereen Duty, Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, +, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 20, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 0-30V, 5A</li>     &lt;</ul>   |   |  |    |
| Simulation Software103Digital Storage Oscilloscope (DSO)10•Bandwidh: 150 MHz10•Rise Time (at input, typical): $\leq 3.5$ ns10•Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-55•Sample rate (real time): 1 GS/s10•Diplay: 7" Colored LCD (Liquid Crystal Display), 65536 colors, 800 x 480 pixels•Channel: 2 channels10•Max Record length: 10K•Sampling rate / relay time accuracy: ±100 ppm•Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF•Max. input voltage: 400V (DC+AC, PK - PK)•DC Gain Accuracy: ±3%•Vertical Sensitivity: 5 mV/div – 5 V/div•Trigger type: Edge, Video•Trigger type: Edge, Video•Trigger type: Edge, Video•Trigger mode: Auto, Normal, Single•Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems•Automatic measurement: Period, Frequency, Mcan, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, Hulse Width, -DulyCycle, Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.•Waveform storage: 16 WaveformsCommunication interface: UBS 20, USB flash disk storageCommunication interface: US2 20, USB flash disk storage4Regulated DC Power Supply (30V, 5A)•CH2: 0-30V, SA•CH2: 0-30V, SA• <td< td=""><td></td><td></td><td></td></td<>   |   |  |    |
| 3       Digital Storage Oscilloscope (DSO)       10         •       Bandwidth: 150 MHz       10         •       Rise Time (at input, typical): ≤ 3.5 ns       10         •       Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5       5         •       Bandwidth: 150 Miles       100 s/div, step by 1-2-5         •       Sampling rate (real time): 1 GS's       10         •       Max Record length: 10K       8         •       Max Record length: 10K       8         •       Max input voltage: 400V (DC+AC, PK - PK)       10         •       DC Gain Accuracy: ±3%       •       Vertical Sensitivity: 5 mV/div – 5 V/div         •       Trigger mode: Auto, Normal, Single       •       110         •       Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems         •       Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, File Edge, Video       •         •       Waveform storage: 16 waveforms       100         •       Waveform storage: 16 waveforms       100         •       CH2: 0-30V, 5A       10         •       CH2: 0-30V, 5A       10 <td></td> <td></td> <td></td>   |   |  |    |
| <ul> <li>Bandwidi: 150 MHz</li> <li>Rise Time (at input, typical): ≤ 3.5 ns</li> <li>Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input oupling: DC, AC, Ground</li> <li>Input impedance: 1 M2±2%, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, Puly Cycle, Delay A→B, Ocela AA→B, Ocele RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, +, FFT</li> <li>Waveform Storge: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> <li>Function Generator</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, MA, SK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst w</li></ul>  | - |  |    |
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| <ul> <li>Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 7°. Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input oupling: DC, AC, Ground</li> <li>Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger mole: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, +, FFT</li> <li>Waveform Math: +, -, ×, +, FFT</li></ul>   |   | • Bandwidth: 150 MHz   |    |
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| <ul> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate/ relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input inpudance: 11 M&amp;±2%, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Fulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> <li><b>Function Generator</b></li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File manaagement suppor</li></ul>   |   |  |    |
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| <ul> <li>Channel: 2 channels         Max Record length: 10K         Sampling rate / relay time accuracy: ±100 ppm         Input coupling: DC, AC, Ground         Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF         Max. input voltage: 400V (DC+AC, PK - PK)         DC Gain Accuracy: ±3%         Vertical Sensitivity: 5 mV/div – 5 V/div         Trigger type: Edge, Video         Trigger mode: Auto, Normal, Single         Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems         Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, +Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, *, FFT         Waveform Math: +, -, ×, *, FFT         Waveform stardare: USB 2.0, USB flash disk storage         Communication interface: USB 2.0, USB flash disk storage         Ch1: 0-30V, 5A         CH3: 5V, 3A         Load Regulation: 0.01% + 5mv         Parallel Mode, Series Mode         OVP/OCP Function         Number of Characters: 16         Function Generator         Range: upto 15MHz         Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k         - 5 basic waveforms and 32 arbitrary waveforms in-built         Pulse wave output set in dege time         Internal/external AM, FM, PM, ASK, FSK and PSK modulation function         - Output of linear/logarithmic frequency sweep and burst waveform         Frequency meter of high precision of 100MHz and 32-bit counter         File management supporting USB flash disk and local storage         Autor of the supporting USB flash disk and local storage         Autor of high precision of 100MHz and 32-bit counter         File management supporting USB flash disk and local storage         Autoret</li></ul> |   |  |    |
| <ul> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input impedance: 1 M2+2%, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video)</li> <li>Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, +, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function Number of Characters: 16</li> <li>Function Generator</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>-5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in dege time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  |   |  |    |
| <ul> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li><b>4 Regulated DC Power Supply (30V, 5A)</b></li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> <li><b>5 Function Generator</b></li> <li>Range: upto 15MHZ</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>-5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in dege time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>   |   | Channel: 2 channels  |    |
| <ul> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger pye: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PM-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>Regulated DC Power Supply (30V, 5A)</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function Number of Characters: 16</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>-5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  |   | • Max Record length: 10K   |    |
| <ul> <li>Input coupling: DC, AC, Ground         <ul> <li>Input impedance: 1 MG±2%, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> </ul> </li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <ul> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> </ul> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> </ul> <li><b>5 Function Generator</b> <ul> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>- Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul> </li>  |   |  |    |
| <ul> <li>Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF</li> <li>Max, input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> <li>Function Generator</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>-5 basic waveforms and 23 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  |   |  |    |
| <ul> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div - 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform Storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li><b>4 Regulated DC Power Supply (30V, 5A)</b></li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> <li><b>5 Function Generator</b></li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>-5 basic waveforms and 22 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>   |   |  |    |
| <ul> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>4 Regulated DC Power Supply (30V, 5A)</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> <li>5 Function Generator</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>- 5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  |   |  |    |
| <ul> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> <li>Function Generator</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>   |   | • Max. input voltage: 400V (DC+AC, PK - PK)  |    |
| <ul> <li>Vertical Sensitivity: 5 mV/div – 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function</li> <li>Number of Characters: 16</li> <li>Function Generator</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>   |   | • DC Gain Accuracy: ±3%  |    |
| <ul> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, +, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulated DC Power Supply (30V, 5A)</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function<br/>Number of Characters: 16</li> <li>Function Generator</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>- 5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  |   |  |    |
| <ul> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base,<br/>Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, +Pulse Width, +Duty<br/>Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty,<br/>Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms<br/>Communication interface: USB 2.0, USB flash disk storage</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function<br/>Number of Characters: 16</li> <li>Function Generator</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>   |   |  |    |
| <ul> <li>Lineffield frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base,<br/>Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, +Duty<br/>Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty,<br/>Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms<br/>Communication interface: USB 2.0, USB flash disk storage</li> <li><b>4 Regulated DC Power Supply (30V, 5A)</b></li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function<br/>Number of Characters: 16</li> <li><b>5 Function Generator</b></li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>   |   |  |    |
| <ul> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base,<br/>Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty<br/>Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty,<br/>Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms<br/>Communication interface: USB 2.0, USB flash disk storage</li> <li><b>4 Regulated DC Power Supply (30V, 5A)</b></li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function<br/>Number of Characters: 16</li> <li><b>5 Function Generator</b></li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  |   |  |    |
| Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty         Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty,         Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         • Waveform Math: +, -, ×, ÷, FFT         • Waveform storage: 16 waveforms         Communication interface: USB 2.0, USB flash disk storage         4 <b>Regulated DC Power Supply (30V, 5A)</b> • CH1: 0-30V, 5A         • CH2: 0-30V, 5A         • CH3: 5V, 3A         • Load Regulation: 0.01% + 5mv         • Parallel Mode, Series Mode         • OVP/OCP Function         Number of Characters: 16         5 <b>Function Generator</b> • Range: upto 15MHz         • Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k         • 5 basic waveforms and 32 arbitrary waveforms in-built         • Pulse wave output set in edge time         • Internal/external AM, FM, PM, ASK, FSK and PSK modulation function         • Output of linear/logarithmic frequency sweep and burst waveform         • Frequency meter of high precision of 100MHz and 32-bit counter         • File management supporting USB flash disk and local storage   |   | • Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems |    |
| Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty         Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty,         Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         • Waveform Math: +, -, ×, ÷, FFT         • Waveform storage: 16 waveforms         Communication interface: USB 2.0, USB flash disk storage         4         Regulated DC Power Supply (30V, 5A)         • CH1: 0-30V, 5A         • CH2: 0-30V, 5A         • CH3: 5V, 3A         • Load Regulation: 0.01% + 5mv         • Parallel Mode, Series Mode         • OVP/OCP Function         Number of Characters: 16         5         Function Generator         • Range: upto 15MHz         • Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k         • 5 basic waveforms and 32 arbitrary waveforms in-built         • Pulse wave output set in edge time         • Internal/external AM, FM, PM, ASK, FSK and PSK modulation function         • Output of linear/logarithmic frequency sweep and burst waveform         • Frequency meter of high precision of 100MHz and 32-bit counter         • File management supporting USB flash disk and local storage   |   | • Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base,     |    |
| Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty,<br>Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         • Waveform Math: +, -, ×, ÷, FFT         • Waveform storage: 16 waveforms         Communication interface: USB 2.0, USB flash disk storage         4         Regulated DC Power Supply (30V, 5A)         • CH1: 0-30V, 5A         • CH2: 0-30V, 5A         • CH3: 5V, 3A         • Load Regulation: 0.01% + 5mv         • Parallel Mode, Series Mode         • OVP/OCP Function         Number of Characters: 16         5         Function Generator         • Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k         • 5 basic waveforms and 32 arbitrary waveforms in-built         • Pulse wave output set in edge time         • Internal/external AM, FM, PM, ASK, FSK and PSK modulation function         • Output of linear/logarithmic frequency sweep and burst waveform         • Frequency meter of high precision of 100MHz and 32-bit counter         • File management supporting USB flash disk and local storage   |   |  |    |
| Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         Waveform Math: +, -, ×, ÷, FFT         Waveform storage: 16 waveforms         Communication interface: USB 2.0, USB flash disk storage         4         Regulated DC Power Supply (30V, 5A)         • CH1: 0-30V, 5A         • CH2: 0-30V, 5A         • CH3: 5V, 3A         • Load Regulation: 0.01% + 5mv         • Parallel Mode, Series Mode         • OVP/OCP Function         Number of Characters: 16         5         Function Generator         • Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k         • 5 basic waveforms and 32 arbitrary waveforms in-built         • Pulse wave output set in edge time         • Internal/external AM, FM, PM, ASK, FSK and PSK modulation function         • Output of linear/logarithmic frequency sweep and burst waveform         • Frequency meter of high precision of 100MHz and 32-bit counter         • File management supporting USB flash disk and local storage  |   |  |    |
| <ul> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms<br/>Communication interface: USB 2.0, USB flash disk storage</li> <li>Regulated DC Power Supply (30V, 5A)</li> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function<br/>Number of Characters: 16</li> <li>Function Generator</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>- 5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>- Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  |   |  |    |
| • Waveform storage: 16 waveforms       Communication interface: USB 2.0, USB flash disk storage         4       Regulated DC Power Supply (30V, 5A)       10         • CH1: 0-30V, 5A       10         • CH2: 0-30V, 5A       CH3: 5V, 3A         • Load Regulation: 0.01% + 5mv       Parallel Mode, Series Mode         • OVP/OCP Function       Number of Characters: 16         5       Function Generator       10         • Range: upto 15MHz       10         • Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k       5 basic waveforms and 32 arbitrary waveforms in-built         • Pulse wave output set in edge time       Internal/external AM, FM, PM, ASK, FSK and PSK modulation function         • Output of linear/logarithmic frequency sweep and burst waveform       Frequency meter of high precision of 100MHz and 32-bit counter         • File management supporting USB flash disk and local storage       9  |   |  |    |
| Communication interface: USB 2.0, USB flash disk storage       10         4       Regulated DC Power Supply (30V, 5A)       10         • CH1: 0-30V, 5A       10         • CH2: 0-30V, 5A       10         • CH3: 5V, 3A       10         • Load Regulation: 0.01% + 5mv       10         • Parallel Mode, Series Mode       0VP/OCP Function         • OVP/OCP Function       10         • Range: upto 15MHz       10         • Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k       5         • 5 basic waveforms and 32 arbitrary waveforms in-built       10         • Pulse wave output set in edge time       11         • Internal/external AM, FM, PM, ASK, FSK and PSK modulation function       0utput of linear/logarithmic frequency sweep and burst waveform         • Frequency meter of high precision of 100MHz and 32-bit counter       • File management supporting USB flash disk and local storage  |   |  |    |
| 4       Regulated DC Power Supply (30V, 5A)       10         •       CH1: 0-30V, 5A       10         •       CH2: 0-30V, 5A       10         •       CH3: 5V, 3A       10         •       Load Regulation: 0.01% + 5mv       10         •       Parallel Mode, Series Mode       10         •       OVP/OCP Function       10         Number of Characters: 16       10         5       Function Generator       10         •       Range: upto 15MHz       10         •       Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k       5         •       5 basic waveforms and 32 arbitrary waveforms in-built       10         •       Pulse wave output set in edge time       10         •       Internal/external AM, FM, PM, ASK, FSK and PSK modulation function       0utput of linear/logarithmic frequency sweep and burst waveform         •       File management supporting USB flash disk and local storage       10  |   |  |    |
| 4       Regulated DC Power Supply (30V, 5A)       10         •       CH1: 0-30V, 5A       10         •       CH2: 0-30V, 5A       10         •       CH3: 5V, 3A       10         •       Load Regulation: 0.01% + 5mv       10         •       Parallel Mode, Series Mode       10         •       OVP/OCP Function       10         Number of Characters: 16       10         5       Function Generator       10         •       Range: upto 15MHz       10         •       Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k       5 basic waveforms and 32 arbitrary waveforms in-built         •       Pulse wave output set in edge time       10         •       Internal/external AM, FM, PM, ASK, FSK and PSK modulation function         •       Output of linear/logarithmic frequency sweep and burst waveform         •       Frequency meter of high precision of 100MHz and 32-bit counter         •       File management supporting USB flash disk and local storage   |   | Communication interface: USB 2.0, USB flash disk storage                               |    |
| <ul> <li>CH1: 0-30V, 5A</li> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function<br/>Number of Characters: 16</li> <li>Function Generator</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  | 4 |  | 10 |
| <ul> <li>CH2: 0-30V, 5A</li> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function<br/>Number of Characters: 16</li> <li>Function Generator</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  | - |  |    |
| <ul> <li>CH3: 5V, 3A</li> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function<br/>Number of Characters: 16</li> <li>Function Generator</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  |   |  |    |
| <ul> <li>Load Regulation: 0.01% + 5mv</li> <li>Parallel Mode, Series Mode</li> <li>OVP/OCP Function<br/>Number of Characters: 16</li> <li>Function Generator</li> <li>Range: upto 15MHz</li> <li>Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k</li> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>   |   |  |    |
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| Number of Characters: 16       10         5       Function Generator       10         • Range: upto 15MHz       10         • Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k       5         • 5 basic waveforms and 32 arbitrary waveforms in-built       10         • Pulse wave output set in edge time       10         • Internal/external AM, FM, PM, ASK, FSK and PSK modulation function       0         • Output of linear/logarithmic frequency sweep and burst waveform       10         • Frequency meter of high precision of 100MHz and 32-bit counter       10         • File management supporting USB flash disk and local storage       10   |   | OVP/OCP Function   |    |
| 5       Function Generator       10         • Range: upto 15MHz       10         • Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k       5 basic waveforms and 32 arbitrary waveforms in-built         • Pulse wave output set in edge time       10         • Internal/external AM, FM, PM, ASK, FSK and PSK modulation function       0utput of linear/logarithmic frequency sweep and burst waveform         • Frequency meter of high precision of 100MHz and 32-bit counter       • File management supporting USB flash disk and local storage   |   |  |    |
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| <ul> <li>5 basic waveforms and 32 arbitrary waveforms in-built</li> <li>Pulse wave output set in edge time</li> <li>Internal/external AM, FM, PM, ASK, FSK and PSK modulation function</li> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>   |   |  |    |
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| <ul> <li>Output of linear/logarithmic frequency sweep and burst waveform</li> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>  |   |  |    |
| <ul> <li>Frequency meter of high precision of 100MHz and 32-bit counter</li> <li>File management supporting USB flash disk and local storage</li> </ul>   |   |  |    |
| File management supporting USB flash disk and local storage   |   |  |    |
|   |   |  |    |
| Time channel autout with the high at a time for an and  |   |  |    |
| Two-channel output with the highest output frequency  | ~ |  | 10 |
| 6Digital Multimeter10   | 6 | Digital Multimeter   | 10 |
| • DC Voltage (V) $0.1 \text{mV} \sim 600 \text{V}$  |   |  |    |

|    | • AC Voltage (V) $0.1 \text{mV} \sim 600 \text{V}$   |    |
|----|--|----|
|    | • DC Current (A) $0.01\mu$ A~10A   |    |
|    | • AC Current (A) $0.01\mu$ A~10A   |    |
|    | • Resistance ( $\Omega$ ) 0.1 $\Omega$ ~60M $\Omega$   |    |
|    | • Capacitance (F) $1nF\sim60000\mu F$  |    |
|    | • Frequency: 10Hz ~ 10MHz  |    |
|    | Maximum display: 5999  |    |
|    | NVC= Yes, True RMS, Backlight, Auto Power Off, Value Lock= Yes   |    |
| 9  | Experimental Bench Stations  | 10 |
| -  | Table size: L=72", W=36", H=32", next shelf height=18", 3 side walls height=24", 6" top open   |    |
|    | Frame size: L=69", W=33", H=31" of MS Box section 1.5" x 2.5", 18 gauge with hammer silver   |    |
|    | paint,   |    |
|    | Top and shelve thickness= $2 \times 32$ mm win-board duly polished as requirement.   |    |
|    | Plastic shoes for each leg   |    |
|    | Along with power connection of 4 sockets with one switch on both ends near top shelves along   |    |
|    | with power cable 6 m long.   |    |
|    | Bidder has to provide sample at the time of bid opening at university Campus   |    |
| 10 | Circuit Components (one set)   | 1  |
| 10 |  | 1  |
|    |  |    |
|    | • Resistors $(4.7\Omega, 10\Omega, 470 \Omega, 1k \Omega, 2.2 k\Omega, 10k \Omega, 2.2k \Omega, 47k \Omega, 100K \Omega, 470k \Omega 1M$ |    |
|    | $\Omega$ , 1000pcs each)   |    |
|    | • Capacitors (10nF, 100nF, 2.2uF, 470uF,4.7uf 100pcs each)   |    |
|    | • Inductors (1mH and 10mH 100pcs each)   |    |
|    | • Diodes (IN4007, IN4148 100pcs each)  |    |
|    | <ul> <li>Transistors (BD139, BD140 100 each</li> </ul>   |    |
|    | • LEDs (Light Emitting Diodes)   |    |
|    | • 3mm (Red, green, yellow) 100 each  |    |
|    | • Different ICs (74HC08, 74HC00, 74HC04, TL-072, TL-082) 100pcs each   |    |
|    | <ul> <li>Sensors (LM35, Inductive Sensor) (20 each)</li> </ul>   |    |
|    | <ul> <li>Potentiometers (10kΩ, 100kΩ) 50 each</li> </ul>   |    |
|    |  |    |
|    |  |    |
|    | • Jumper wires 2kg   |    |
|    | • Test Leads (10 sets)   |    |
|    | • Soldering wires and paste (200g soldering wire and 3 small box of paste)   |    |
|    | 2mm-2mm M to M patch cords   |    |
| 11 | Misc. Accessories / Parts  | 1  |
|    | • Wire Strippers/Cutters (6") 20pcs  |    |
|    | • Tweezers 20pcs   |    |
|    | Digital Callipers 10pcs  |    |
|    | • Safety Equipment (Safety helmet, Safety goggles, safety gloves, safety shoes) 10 Set   |    |
|    | • Storage Containers (Drawer Size: 8" x 12", 4 drawers in each cabinet) (Qty: 4 cabinets)  |    |
|    | • Labels and Markers (Board Markers: 10pcs, Sticky Notes (Labels): 10pcs)  |    |
|    | <ul> <li>Magnifying Glass 3" (Qty: 10pcs)</li> </ul>   |    |
|    | <ul> <li>Ball Pein Hammer 24oz Qty1pc</li> </ul>   |    |
|    |  |    |
|    |  |    |
|    | • Long Nose Plier 6" (Qty: 5pcs)   |    |
|    | • 8PCS DOUBLE OPEN END SPANNER SET, 6×7mm, 8×9mm, 10×11mm, 12×13mm,  |    |
|    | 14×15mm, 16×17mm, 18×19mm, 20×22mm (Qty: 1pc each)   |    |
|    | • Square Steel 12" (Qty: 2pcs)   |    |
|    | • Screwdriver sets,  |    |
|    | SL6*38mm SL5*75mm SL6*100mm PH2*38mm PH1*75mm PH2*100mm,   |    |
|    | (Qty: 1pc)   |    |
|    | • 5pcs Steel file set size:8" (1 pc)   |    |
|    | • Tool Kit (Qty: 1 Set) consists of Lineman's pliers: 165mm  |    |
|    | Side cutting pliers: 125 mm  |    |
|    | Long nose pliers: 150 mm   |    |
|    | Soldering iron stand with sponge   |    |
|    | Desoldering pump   |    |
|    | Ceramic soldering iron   |    |
|    | screwdriver: 3.2x75 mm   |    |
|    | screwdriver: #0x75 mm  |    |
|    |  |    |

|   | screwdriver: 5.0x75 mm              |  |
|---|-------------------------------------|--|
|   | screwdriver: #1x75 mm               |  |
|   | screwdriver: 6.0x100 mm             |  |
|   | screwdriver: #2x100 mm              |  |
|   | screwdriver: 3/16"                  |  |
|   | screwdriver: 1/4"                   |  |
|   | Electronic screwdriver set (6 pcs.) |  |
|   | Professional multimeter             |  |
|   | Folding type hex key set (7 pcs.)   |  |
|   | PVC insulated tape                  |  |
|   | Solder core                         |  |
| • | Allen Key Set (7pcs)                |  |
| • | Blower 400W                         |  |

## 2 Electronics Lab

| <b>S.</b> # | Description  | Quantity |
|-------------|--|----------|
| 1           | Semiconductor Devices Trainers   | 10       |
|             | Base Unit with at least 5-7 modules capable of performing following experiments / features           |          |
|             | Diode Characteristics  |          |
|             | <ul> <li>Characteristics and application of a Zener diode</li> </ul>                                 |          |
|             | <ul> <li>Diode in a dc circuit</li> </ul>  |          |
|             | <ul> <li>Half-wave rectifier circuits</li> </ul>   |          |
|             | <ul> <li>Full-wave rectifier circuits with center tapped</li> </ul>                                  |          |
|             | <ul> <li>Bridge rectifier circuits</li> </ul>  |          |
|             | <ul> <li>Voltage doubler circuit</li> </ul>  |          |
|             | <ul> <li>Characteristics of light emitting diode (LED)</li> </ul>                                    |          |
|             | <ul> <li>Characteristics of bipolar junction transistor (BJT)</li> </ul>                             |          |
|             | <ul> <li>Characteristics of field-effect transistor (FIET)</li> </ul>                                |          |
|             | <ul> <li>Characteristics of uni-junction transistor (UJT)</li> </ul>                                 |          |
|             | <ul> <li>Characteristics of programmable uni-junction (PUT)</li> </ul>                               |          |
|             | <ul> <li>Characteristics of silicon-controlled rectifier (SCR)</li> </ul>                            |          |
|             | <ul> <li>Characteristics of DIAC</li> </ul>  |          |
|             | <ul> <li>Characteristics of TRIAC</li> </ul>   |          |
|             | <ul> <li>Photo-transistor</li> </ul>   |          |
|             | <ul> <li>BJT Base-Biasing Circuit</li> </ul>   |          |
|             | <ul> <li>BJT Collector-feedback Biasing Circuit</li> </ul>   |          |
|             | <ul> <li>BJT Emitter-Biasing Circuit</li> </ul>  |          |
|             | <ul> <li>BJT Voltage-Divider Biasing Circuit</li> </ul>  |          |
|             | Common Base Circuit  |          |
|             | <ul> <li>Static Test of Common Collector Circuit</li> </ul>  |          |
|             | Dynamic Test Common Collector Circuit  |          |
|             | Transistor Saturation and cutoff Currents  |          |
|             | Relay Drive With Transistor  |          |
|             | Darlington Circuit   |          |
|             | Photoelectric Control Circuit     T' D lo C' ait   |          |
|             | Time Delay Circuit     Salt Disa American IEET   |          |
|             | <ul> <li>Self-Bias Arrangement for JFET</li> <li>Self Bias Arrangement for MOSEET</li> </ul>         |          |
|             | <ul> <li>Self-Bias Arrangement for MOSFET</li> <li>UEET CS Amplification (Self Bias)</li> </ul>      |          |
|             | <ul> <li>JFET CS Amplifier (Self-Bias)</li> <li>JFET CS Amplifier (Voltage-Dividing Bias)</li> </ul> |          |
|             | Common Base Circuit  |          |
|             | <ul> <li>CD Amplifier (Voltage-Dividing Bias)</li> </ul>   |          |
|             | <ul> <li>MOSFET Amplifier (Voltage-Dividing Bias)</li> </ul>   |          |
|             | <ul> <li>OP Amp Parameters</li> </ul>  |          |
|             | <ul> <li>Non-Inverting Amp Circuit</li> </ul>  |          |
|             | <ul> <li>Inverting Amp Circuit</li> </ul>  |          |
|             | <ul> <li>Voltage Follower Amp Circuit</li> </ul>   |          |
|             | <ul> <li>Differential Amp Circuit</li> </ul>   |          |
|             | <ul> <li>Summing Amp Circuit</li> </ul>  |          |
|             | <ul> <li>Integrator Circuit</li> </ul>   |          |
|             | <ul> <li>Differentiator Circuit</li> </ul>   |          |
|             | <ul> <li>Voltage Comparator Circuit</li> </ul>   |          |
|             | <ul> <li>Window Comparator Circuit</li> </ul>  |          |

|   |   | 1  |
|---|---|----|
|   | <ul> <li>Schmitt Trigger Circuit</li> </ul>                               |    |
|   | <ul> <li>Astable (Square Ware Generator)</li> </ul>                       |    |
|   | Low-Pass Filter Circuit   |    |
|   | <ul> <li>High-Pass Filter Circuit</li> </ul>                              |    |
|   | <ul> <li>Band-Pass Filter circuit</li> </ul>                              |    |
|   | <ul> <li>Sine And Cosine Wave Generator</li> </ul>                        |    |
|   | <ul> <li>Square And Triangle Wave Generator</li> </ul>                    |    |
|   |   |    |
|   | Class A amplifier   |    |
|   | Class B amplifier   |    |
|   | <ul> <li>Class AB amplifier</li> </ul>                                    |    |
|   | <ul> <li>Multistage amplifier</li> </ul>                                  |    |
|   | Transformer coupled class A amplifier                                     |    |
|   | Simulation Software   |    |
| 2 | Analog Electronics Trainer (Breadboard Based)                             | 10 |
|   | <ul> <li>Application of Ohm's Law</li> </ul>                              |    |
|   | <ul> <li>Series DC Circuit</li> </ul>                                     |    |
|   | <ul> <li>Parallel DC Circuit</li> </ul>                                   |    |
|   |   |    |
|   | Diode Characteristics   |    |
|   | <ul> <li>Half Wave Rectifier Circuit</li> </ul>                           |    |
|   | <ul> <li>Full Wave Rectifier Circuits with Center Tapped</li> </ul>       |    |
|   | Bridge Rectifier Circuits   |    |
|   | <ul> <li>Voltage Doubler Circuit</li> </ul>                               |    |
|   | <ul> <li>Characteristics of Light Emitting Diodes</li> </ul>              |    |
|   | <ul> <li>Characteristics of Bipolar Junction Transistor</li> </ul>        |    |
|   | <ul> <li>Characteristics of Field-Effect Transistor (FET)</li> </ul>      |    |
|   |   |    |
|   | Characteristics of Unijunction Transistor (UJT)                           |    |
|   | Characteristics of Programmable Unijunction Transistors (PUT)             |    |
|   | <ul> <li>Characteristics of Silicon Controlled Rectifier (SCR)</li> </ul> |    |
|   | <ul> <li>Characteristics and Applications of Zener Diode</li> </ul>       |    |
|   | Diode in a DC Circuit   |    |
|   | Characteristics of DIAC   |    |
|   | <ul> <li>Characteristics of TRIAC</li> </ul>                              |    |
|   | <ul> <li>Non-Inverting Amplifier Circuit</li> </ul>                       |    |
|   | <ul> <li>Inverting Amplifier Circuit</li> </ul>                           |    |
|   |   |    |
|   | Differential Amplifier Circuit  |    |
|   | Integrator Circuit  |    |
|   | <ul> <li>Differentiator Circuit</li> </ul>                                |    |
|   | Low-Pass Filter Circuit   |    |
|   | <ul> <li>High-Pass Filter Circuit</li> </ul>                              |    |
|   | Band-Pass Filter Circuit  |    |
| 3 | Digital Electronics Trainers (Breadboard Based)                           | 10 |
| 5 | Digital Section:  | 10 |
|   | <ul> <li>AND Gate Operation</li> </ul>                                    |    |
|   |   |    |
|   | • OR Gate Operation   |    |
|   | <ul> <li>NOT Gate Operation</li> </ul>                                    |    |
|   | <ul> <li>NAND Gate Operation</li> </ul>                                   |    |
|   | NOR Gate Operation  |    |
|   | <ul> <li>XOR Gate Operation</li> </ul>                                    |    |
|   | <ul> <li>Construction of XOR Gate from NAND Gate</li> </ul>               |    |
|   | <ul> <li>Half Adder Operation</li> </ul>                                  |    |
|   | <ul> <li>Full Adder Operation</li> </ul>                                  |    |
|   |   |    |
|   | Half Subtractor Operation   |    |
|   | Full Subtractor Operation   |    |
|   | <ul> <li>7-Segment Display Operation</li> </ul>                           |    |
|   | <ul> <li>Decoder Operation</li> </ul>                                     |    |
|   | <ul> <li>BCD to 7-Segment Display</li> </ul>                              |    |
|   | <ul> <li>Multiplexer Operation</li> </ul>                                 |    |
|   | <ul> <li>Using Multiplexer and Demultiplexer/Decoder</li> </ul>           |    |
|   | <ul> <li>Multiplexing 7-Segment Displays</li> </ul>                       |    |
|   |   |    |
|   | Comparator Operation  |    |
|   | D Latch and Flip Flop Operation   |    |
| 1 | <ul> <li>Latching BCD Data for Displaying 7-Segment Display</li> </ul>    |    |
|   |   |    |
|   | <ul> <li>Re-circulating Data</li> </ul>                                   |    |
|   | <ul> <li>Re-circulating Data</li> <li>J-K Flip Flop Operation</li> </ul>  |    |

Signature of bidder with official stamp Dated:

|    | <ul> <li>Characteristics of Light Emitting Diodes</li> </ul>   |    |
|----|--|----|
|    | <ul> <li>Characteristics of Bipolar Junction Transistor</li> </ul>   |    |
|    | <ul> <li>Characteristics of Field-Effect Transistor (FET)</li> </ul>   |    |
|    | <ul> <li>Characteristics of Unijunction Transistor (UJT)</li> </ul>  |    |
|    | <ul> <li>Characteristics of Programmable Unijunction Transistors (PUT)</li> </ul>  |    |
|    |  |    |
|    | Characteristics of Silicon Controlled Rectifier (SCR)  |    |
|    | Characteristics of DIAC  |    |
|    | Characteristics of TRIAC   |    |
| 4  | Integrated Electronics Trainer (Breadboard based)  | 20 |
|    | <ul> <li>AND Gate Operation</li> </ul>   |    |
|    | <ul> <li>OR Gate Operation</li> </ul>  |    |
|    | <ul> <li>NOT Gate Operation</li> </ul>   |    |
|    | <ul> <li>NAND Gate Operation</li> </ul>  |    |
|    | <ul> <li>NOR Gate Operation</li> </ul>   |    |
|    | • XOR Gate Operation   |    |
|    | <ul> <li>Construction of XOR Gate from NAND Gate</li> </ul>  |    |
|    |  |    |
|    | Half Adder Operation     Full Adder Operation  |    |
|    | Full Adder Operation   |    |
|    | <ul> <li>D Latch and Flip Flop Operation</li> </ul>  |    |
|    | <ul> <li>Latching BCD Data for Displaying 7-Segment Display</li> </ul>   |    |
|    | <ul> <li>Re-circulating Data</li> </ul>  |    |
|    | <ul> <li>J-K Flip Flop Operation</li> </ul>  |    |
|    | <ul> <li>Half Subtractor Operation</li> </ul>  |    |
|    | <ul> <li>Full Subtractor Operation</li> </ul>  |    |
|    | <ul> <li>7-Segment Display Operation</li> </ul>  |    |
|    | Decoder Operation  |    |
|    | <ul> <li>BCD to 7-Segment Display</li> </ul>   |    |
|    | <ul> <li>Multiplexer Operation</li> </ul>  |    |
|    |  |    |
|    | • Using Multiplexer and Demultiplexer/Decoder  |    |
|    | <ul> <li>Multiplexing 7-Segment Displays</li> </ul>  |    |
|    | Comparator Operation   |    |
| 7  | Arbitrary Function Generator   | 12 |
|    | • Range: upto 15MHz  |    |
|    | • Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k   |    |
|    | - 5 basic waveforms and 32 arbitrary waveforms in-built  |    |
|    | - Pulse wave output set in edge time   |    |
|    | - Internal/external AM, FM, PM, ASK, FSK and PSK modulation function   |    |
|    | - Output of linear/logarithmic frequency sweep and burst waveform  |    |
|    | - Frequency meter of high precision of 100MHz and 32-bit counter   |    |
|    |  |    |
|    | • File management supporting USB flash disk and local storage  |    |
|    | Two-channel output with the highest output frequency   |    |
| 9  | Analog Multimeter  | 12 |
|    | • DCV: 0.25-0.5-2.5-10-50-250-1000   |    |
|    | • ACV: 10-50-250-500-1000  |    |
|    | • DC mA: 50µ A-2.5mA, 25mA-0.25A   |    |
|    | • Ohm: X1:0~ $2k\Omega$ , Midscale at 20 $\Omega$ X10:0~ $20k\Omega$ , Midscale at 20 $\Omega$ X1k:0~ $2M\Omega$ , Midscale at |    |
|    |  |    |
|    | $20k\Omega \times 10K:0 \sim 20M\Omega$ , Midscale at $200k\Omega$   |    |
| 10 | Overload protected by fuse   | 10 |
| 10 | Soldering Station  | 12 |
|    | • Power consumption: 720W  |    |
|    | • Soldering Iron Temperature range: 200-450°C  |    |
|    | • Gun Temperature range: 100-450°C   |    |
|    | • Gun heater material: Ferro-alloys  |    |
|    | • Gun heater resistance: $74\Omega$  |    |
|    |  |    |
|    | Soldering Iron Type: Black Handle  |    |
|    | Soldering Iron Heater material: Common heater  |    |
|    | Gun type: brushless fan air flow :120L/min   |    |
| 12 | Device Characteristics Tracer  | 2  |
|    | Collector Drain Sweep Voltage:   |    |
|    | Frequency:   |    |
|    | 100Hz (2X line frequency)  |    |
| 1  |  |    |
|    | VOITA96:   |    |
|    | <b>Voltage:</b> 11 steps, 5, 10, 20, 30, 40, 50, 60, 80, 100, 150 and 200V; accuracy + 10%                                     |    |

|    | Sweep waveform:  |   |
|----|--|---|
|    | Full wave rectified  |   |
|    | Current Lim  |   |
|    | Step Generator:  |   |
|    | Number of steps:   |   |
|    | 7 (eight curves display)   |   |
|    | Current per step:  |   |
|    | 0.1, 0.2, 0.5, 1.0, 2.0 mA; accuracy + 5%  |   |
|    | Voltage per step:  |   |
|    | 0.1, 0.2, 0.5V; accuracy + 5%  |   |
|    | Polarity switch:   |   |
|    | Three modes of operation - NPN (n-channel), PNP  |   |
|    | (p-channel), DIODE   |   |
|    | External Bias:   |   |
|    | One curve display  |   |
|    | General:   |   |
|    | Power supply:  |   |
|    | 220VAC   | - |
| 13 | Circuit Components (one set)   | 1 |
|    | • Electronic Components Storage Box 24 drawers (3 pcs) including:  |   |
|    | • Resistors $(4.7\Omega, 10\Omega, 470 \Omega, 1k \Omega, 2.2 k\Omega, 10k \Omega, 2.2k \Omega, 47k \Omega, 100K \Omega, 470k \Omega 1M$ |   |
|    | $\Omega$ , 1000pcs each)   |   |
|    | • Capacitors (10nF, 100nF, 2.2uF, 470uF, 4.7uf 100pcs each)  |   |
|    | • Inductors (1mH and 10mH 100pcs each)   |   |
|    | • Diodes (IN4007, IN4148 100pcs each)  |   |
|    | <ul> <li>Transistors (BD139, BD140 100 each</li> </ul>   |   |
|    | • LEDs (Light Emitting Diodes)   |   |
|    | • 3mm (Red, green, yellow) 100 each  |   |
|    | • Different ICs (74HC08, 74HC00, 74HC04, TL-072, TL-082) 100pcs each   |   |
|    | • Sensors (LM35, Inductive Sensor) (20 each)   |   |
|    | • Potentiometers $(10k\Omega, 100k\Omega)$ 50 each   |   |
|    | • Switches and Buttons (Toggle switch ON-OFF and push button) 50pcs each   |   |
|    | • Jumper wires 2kg   |   |
|    | • Test Leads (10 sets)   |   |
|    | <ul> <li>Soldering wires and paste (200g soldering wire and 3 small box of paste)</li> </ul>   |   |
|    | 2mm-2mm M to M patch cords   |   |

# Section-IV: Bid Data Sheet

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB) Section II. Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

|   |                                     | A. Introduction   |
|---|-------------------------------------|---|
| BDS<br>Clause<br>NumberITB<br>NumberAmendments of, and Supplements to, Clauses in the |                                     | Amendments of, and Supplements to, Clauses in the Instruction to Bidders  |
| 1.  | 2.1.1                               | Name of Procuring Agency: <b>Punjab university of Technology Rasul</b><br>The subject of procurement is: Equipments for Electrical circuits & Electronics Labs<br>Period for delivery of goods: <b>90 days</b><br>Commencement date for delivery of Goods: <b>immediately on signing the contract and issuance of</b><br><b>Procurement/Supply order</b>  |
| 2.  | 2.1.2                               | Financial year for the operations of the Procuring Agency: 2023-24<br>Name of Project: Provision of Infrastructural, Academic and Operational Facilities to the<br>Punjab University of Technology Rasul MB Din<br>Name of financing institution: Government of Punjab (Development Fund)<br>Name and identification number of the Contract: Equipments for Electrical circuits & Electronics<br>Labs (PUT/PMU /2023-24/14)   |
| 3.  | 2.1.3                               | provide relevant certificates of non-debarred/ non-blacklisting, NTN, STRN, non-bankrupt, non-<br>involvement in corrupt and fraudulent practices   |
| 4.  | 2.1.4                               | Ineligible countries are: India and Israel  |
| 5.  | 2.3.6 (iii)                         | Authorization by manufacturer/dealer/seller: required on Form 8.3<br>Qualification requirements. The potential bidder must also fulfill the following:<br>Technical Brochures of goods quoted, mentioning its specifications, manufacturer's Brand and<br>model etc.  |
|   |                                     | B. Bidding Documents  |
| 6.  | 2.2.2<br>(i)                        | The address for clarification of Bidding Documents: Procurement Officer, Punjab University of Technology Rasul. 0336-1031892, email: rasulian786@gmail.com  |
| 7.  | 2.2.2 (iv)<br>2.2.2(v)<br>2.2.2(vi) | Date of Uploading of responses to clarifications (if any) on procuring agency website: on 21-9-23.<br>Pre-bid meeting will be held on 18-09-2023 at 11:00AM in conference room of PUT Rasul<br>Minutes of Meeting along with clarification will be uploaded on PUT Rasul website on 21-9-23.  |
| 8.  | 2.3.9                               | The number of bidding documents to be completed and returned is in <b>one original and one copy.</b>  |
|   | C                                   | Bid Price, Currency, Language and Country of Origin   |
| 9   | 2.3.1                               | Language of the bid – English and other documents brochures etc., if not available in English will be provided after translation in English language by approved translation agency.  |
| 10  | 2.3.4                               | The Full and final prices shall be quoted in <b>Pak Rupees</b><br>The price quoted shall be Delivered Duty Paid.  |
| 11.   | 2.3.4                               | The Full and final prices shall be quoted in <b>Pak Rupees</b>  |
| 12.   | 2.1.4 (ii)                          | Country of origin: Origin in eligible source countries, as per policy of Govt. of Pakistan  |
|   |                                     | D. Preparation and Submission of Bids   |
| 13.   | 2.1.3                               | <ul> <li>Qualification Criteria/Knock down criteria.</li> <li>a) NTN registration certificate of firm. Attested copy</li> <li>b) General Sales Tax registration certificate of firm. Attested copy</li> <li>c) Active Tax Payer Status FBR</li> <li>d) Professional Tax certificate 2022 or latest. Attested copy</li> <li>e) Average Annual Turnover for last 5 years must be Rs. 50 million or More (provide last 05 years "2018,2019, 2020, 2021 &amp; 2022" Income Tax Returns)</li> <li>f) Technical Brochures of goods quoted, mentioning its specifications, manufacture's Brand and model.</li> <li>g) certificate of legally and financially autonomous &amp; operation of non-dependency to Government under commercial law (for Government-owned enterprises).</li> <li>h) Firm must be in operation from last 05 years (NTN registration 05 years old)</li> <li>i) Technical Brochures/ catalogues of goods quoted MUST be attached</li> <li>j) An affidavit on legal stamp paper worth Rs. 300 to the effect that</li> </ul> |

|     |            | Bidder is neither currently blacklisted or debarred from any government / semi-   |
|-----|------------|---|
|     |            | • Bidder is neither currently blacklisted or debarred from any government / semi-<br>Government organization nor is any litigation pending in this regard.  |
|     |            |   |
|     |            | • The documents/photocopies provided with Bid are authentic. In case of any fake/bogus  |
|     |            | document found at any stage, the Bidder shall be blacklisted as per Law/ Rules.   |
|     |            | • The provided information is correct.  |
|     |            | <ul> <li>k) Bidder is authorized for supply of goods for this tender from the manufacturer /authorized<br/>Partner/ distributor/ dealer/ seller as given in specifications (provide certificates form 8.3)</li> <li>l) Registration of the Bidder with relevant forums/ organizations.</li> </ul> |
| 14. | 2.3.6&     | Spare parts may be required for <b>05</b> years of operation.   |
| 14. | 2.3.0&     |   |
|     | 2.3.7      | Supplier will provide certificate that he will provide spare parts demanded by the procuring agency within 07 days for parts available in Pakistan and within 60 days for foreign spare parts.  |
| 15. | 2.4.2 (i)  | Bid shall be submitted to:  |
|     |            | Project Director, Punjab University of Technology Rasul, 13-km, Sarai Alamgir Road, Mandi Bahauddin.  |
| 16. | 2.4.2 (ii) | Deadline for Bid submission: As per Advertisement of this package and can be amended as per   |
| 10. | 2.4.2 (II) | need.   |
| 17. | 2.5.1      | Time, date/ Month/ Year, and place for Bid opening.   |
|     |            | 30 minutes after closing time of bid submission in Conference Room of Punjab University of Technology Rasul, 13-km, Sarai Alamgir Road, Mandi Bahauddin.  |
| 18. | 2.6.2      | Amount of Performance Guarantee is: ten percent (10%) of the contract amount in shape of Bank   |
| 10. | 2.0.2      | Guarantee, Call Deposit in favour of Punjab University of Technology Rasul valid for warranty   |
|     |            | period.   |
| 19. | 2.3.7      | Estimated Contract Price is: Rs. 15,089,000/-   |
|     |            | Amount of Bid security is about $\frac{2\%}{2\%}$ of estimated price= Rs. 301,800/-   |
|     |            | Bid security in shape of Call Deposit Receipt (CDR) in favour of Punjab University of   |
|     |            | Technology Rasul valid for warranty period.   |
| 20. | 2.3.8      | Bid validity period after opening of the Bid is: <u>120 days</u>  |
| 21. | 2.3.9      | Number of copies of the Bid to be provided are: one original & one copy   |
|     | I          | E. Opening and Evaluation of Bids   |
| 22. | 2.5.1      | The Bid opening shall take place at: As per advertisement, 30 minutes after closing time of bid   |
| -   |            | submission.   |
| 23. | 2.3.5      | The currency that shall be used for Bid evaluation and comparison purposes only in Pak Rupees.  |

## F. Bid Evaluation Criteria

| 1. Ev        | valuation Criteria  |      |  |  |  |
|--------------|---|------|--|--|--|
| ITB<br>2.5.8 |   |      |  |  |  |
|              | B- Marking Criteria   |      |  |  |  |
| Sec.#        | # Description   |      | Marks Allocation   |  |  |
| 1            | Company Profile, Experience etc.  | (35) |  |  |  |
| i.           | Experience in years / Market Existence<br>From the date of NTN Registration<br>(NTN Certificate must be attached)   | 10   | Less than 5 years= 0 marks<br>5 years= 6 marks<br>1 Marks per year above 5 years<br>(Maximum 10 Marks) |  |  |
| ii.          | <ul> <li>Value of Projects in public sector</li> <li>Cost of Supply/ Installation having similar nature &amp; of value 10 million or above over last 05 years in public sector.</li> <li>(Purchase orders OR supply orders OR completion certificates must be attached, otherwise, no marks shall be awarded.)</li> </ul> |      | 03 marks Per Project/ supply<br>(Maximum 15 Marks)   |  |  |
| iii.         | <b>Relevant Experience</b><br>Experience of Supply / Installation having similar<br>nature over last 05 years <b>(5 supplies max.)</b>  | 10   | 02 marks Per Project/ supply<br>(Maximum 10 Marks)   |  |  |

|      | (Purchase orders OR supply orders OR<br>completion certificates must be attached,<br>otherwise, no marks shall be awarded.)  |       |   |
|------|--|-------|---|
| 2    | Financial Position   | (30)  |   |
| i.   | Sum of Annual Sales /Annual Turnover (Last five<br>years)<br>(Signed and stamped statement along with tax<br>return last 05 years (2018, 2019, 2020, 2021 &<br>2022) must be attached, otherwise, no marks<br>shall be awarded.) | 15    | 30+ to 60 Million       3 Marks         60+ to 90 Million       6 Marks         90+ to 120 Million       9 Marks         120+ to 150 Million       12 Marks         Above 150 Million       15 Marks         (Maximum 15 Marks)   |
| ii.  | Fixed Assets (Current)<br>(Documentary proof of tax return required)   | 05    | 1.0 to 5.0 Million2 Marks5.0 + to 10 Million4 MarksAbove 10 Million5 Marks(Maximum 05 Marks)  |
| iii. | Tax ReturnActive Tax Payer for Financial Year2018, 2019, 2020, 2021 & 2022.  | 05    | 1 Mark per year<br>(Maximum 05 Marks)   |
| iv.  | Bank Balance / Credit Limit<br>If bank balance / credit limit up-to <u>June, 2023</u> - is<br>equal to 10 Million or more, full marks may be<br>awarded.   | 05    | Otherwise, the marks may be awarded as:<br><u>Closing Balance or Credit Limit</u> x 05<br>10 million  |
| 3.   | Set up for Provision of After Sale Service<br>(Certificate must be attached and Address,<br>telephone and e-mail be provided)  | (05)  | Certificate provided 05 Marks<br>Certificate not provided 0 Marks<br>(Maximum 05 Marks)   |
| 4.   | HR, Infrastructure & Satisfactory Supply proof   | (15)  |   |
| i    | HR/ Staff Strength (Payroll of-June 2023)<br>Technical Staff (Diploma / Degree holder)<br>List of Staff along with qualification must be<br>attached and related final degree/ diploma/<br>transcripts.                          | 10    | 1.5 Marks per 16-year degree holder max=06<br>1 mark for Diploma max=04<br>(Maximum 10 Marks)   |
| ii   | Letter of Satisfaction after sale service by the<br>client who has purchase of minimum 05 million<br>Please attach satisfaction/ appreciation letter<br>(In case of missing information, no mark may<br>be awarded.)             | 05    | 01 mark for each certificate<br>(Maximum 05 marks)  |
| 5    | <ul> <li>Company Presentation &amp; Product<br/>Demonstration= (10)</li> <li>Repair and Maintenance Facilities<br/>Demonstration (05)</li> <li>(Must provide videos for both in USB)</li> </ul>                                  | (15)  | To be assigned by the Technical Committee<br>(Bidder is required to give demonstration of quoto<br>products and have the capability to Repair an<br>Maintenance the products for 5 years, in soft form<br>USB duly sealed. Evaluation committee may deman<br>physical demonstration |
|      | TOTAL MARKS  | (100) |   |

bidder will have to give the demonstration of quoted items at PUT Rasul.

Qualifying Marks 50% in each section is mandatory

Minimum 65% marks are mandatory in this stage.

## G. Award of Contract

| 2.6.5 | Percentage for quantity increase or decrease is: 15%  |
|-------|---|
| 2.6.2 | The Performance Guarantee shall be: ten percent (10%) of the contract amount                        |
| 2.6.2 | The Performance Security (or guarantee) shall be in the form of: CDR or Bank Guarantee in favour of |
|       | Punjab University of Technology Rasul valid for warranty period.                                    |

# Section V. General Conditions of Contract

|             | Secti                 | υΠ   | <b>V</b> •                      | General Conditions of Contract  |
|-------------|-----------------------|------|---------------------------------|---|
| 1.          | Definitions           | 1.1  | In thi                          | s Contract, the following terms shall be interpreted as indicated:  |
|             |                       |      | (a)                             | "The Contract" means the agreement entered into between the<br>Procuring Agency and the Supplier, as recorded in the Contract<br>Form signed by the parties, including all attachments and<br>appendices thereto and all documents incorporated by reference<br>therein.  |
|             |                       |      | (b)                             | "The Contract Price" means the price payable to the Supplier under<br>the Contract for the full and proper performance of its contractual<br>obligations.   |
|             |                       |      | (c)                             | "The Goods" means all the equipment, machinery, and/or other<br>materials which the Supplier is required to supply to the Procuring<br>Agency under the Contract.   |
|             |                       |      | (d)                             | "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.   |
|             |                       |      | (e)                             | "GCC" means the General Conditions of Contract contained in this section.   |
|             |                       |      | (f)                             | "SCC" means the Special Conditions of Contract.   |
|             |                       |      | (g)                             | "The Procuring Agency" means the organization purchasing the Goods, as named in SCC.  |
|             |                       |      | (h)                             | "The Procuring Agency's country" is Islamic Republic of Pakistan.   |
|             |                       |      | (i)                             | "The Supplier" means the individual or firm supplying the Goods<br>and Services under this Contract.  |
|             |                       |      | (j)                             | "The Project Site," where applicable, means the place or places mentioned in the Form of Bid  |
|             |                       |      | (k)                             | "Day" means calendar day.   |
| 2.          | Application           | 2.1  |                                 | e General Conditions shall apply to the extent that they are not superseded ovisions of other parts of the Contract.  |
| 3.          | Country of<br>Origin  | 3.1  |                                 | boods and Services supplied under the Contract shall have their origin in the tries and territories eligible under the rules, as further elaborated in the SCC.   |
|             |                       | 3.2  | mine<br>produ<br>assen<br>subst | burposes of this Clause, "origin" means the place where the Goods were<br>d, grown, or produced, or from which the Services are supplied. Goods are<br>uced when, through manufacturing, processing, or substantial and major<br>ably of components, a commercially recognized new product results that is<br>antially different in basic characteristics or in purpose or utility from its<br>ponents. |
|             |                       | 3.3  | The c                           | origin of Goods and Services is distinct from the nationality of the Supplier.  |
| <b>3</b> a. | One person<br>one bid | 3.4  | one b                           | y procurement, one bidder may submit one bid of a specific package and if<br>idder submits more than one bids of the same package, the procuring agency<br>reject all such bids. However, one bidder may bid for one or more packages.  |
| <b>4.</b> S | tandards              | 4.1. |                                 | Goods supplied under this Contract shall conform to the standards ioned in the Technical Specifications, and, when no applicable standard is  |
|             |                       |      |                                 | • • • • • • • • •   |

|    |  |     | mentioned, to the authoritative standards appropriate to the Goods' country of origin. Such standards shall be the latest issued by the concerned institution.  |
|----|--|-----|---|
| 5. | Use of<br>Contract<br>Documents<br>and<br>Information;<br>Inspection | 5.1 | The Supplier shall not, without the Procuring Agency's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring Agency in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance. |
|    | and Audit by<br>the32<br>Procuring                                   | 5.2 | The Supplier shall not, without the Procuring Agency's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.  |
|    | agency.  | 5.3 | Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring Agency and shall be returned (all copies) to the Procuring Agency on completion of the Supplier's performance under the Contract if so required by the Procuring Agency.  |
|    |  | 5.4 | The Supplier shall permit the Procuring Agency to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the donors, if so required by the donors.   |
| 6. | Patent Rights  | 6.1 | The Supplier shall indemnify the Procuring Agency against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring Agency's country.   |
| 7. | Performance<br>Guarantee   | 7.1 | Within seven (07) days of receipt of letter of intent/ notification of contract award, the successful Bidder shall furnish to the Procuring Agency the performance guarantee in the amount specified in SCC/ BDS & clause 2.6.2 of ITB.   |
|    |  | 7.2 | The proceeds of the performance guarantee shall be payable to the Procuring Agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.   |
|    |  | 7.3 | The performance guarantee shall be denominated in the currency of the Contract acceptable to the Procuring Agency and shall be in one of the following forms:   |
|    |  |     | <ul> <li>(a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in Pakistan, in the form provided in the Bidding documents or another form acceptable to the Procuring Agency; or</li> </ul>  |
|    |  |     | (b) a Bank Guarantee or Bank call-deposit (CDR),  |
|    |  |     | (c) In case of expiry of performance guarantee, the contractor shall<br>renew the performance guarantee valid for warranty period, if<br>required by the procuring agency   |
|    |  | 7.4 | The performance guarantee will be discharged by the Procuring Agency and<br>returned to the Supplier not later than thirty (30) days following the date of<br>completion of the Supplier's performance obligations under the Contract,<br>including any warranty obligations, unless specified otherwise in SCC.  |
| 8. | Inspections<br>and Tests   | 8.1 | The Procuring Agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring Agency. <b>SCC and the Technical Specifications</b> shall specify what inspections and tests the Procuring Agency requires and where they are to be conducted. The Procuring Agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.                  |

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|                            | <ul> <li>8.2 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery, and/or at the Goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Procuring Agency.</li> <li>8.3 Should any inspected or tested Goods fail to conform to the Specifications, the</li> </ul>  |
|                            | Procuring Agency may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Procuring Agency.   |
|                            | 8.4 The Procuring Agency post-delivery right to inspect, test and, where necessary, reject the goods after the Goods' arrival in the Procuring Agency's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Procuring Agency or its representative prior to the Goods' shipment from the country of origin.  |
|                            | 8.5 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.  |
| 9. Packing                 | 9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit. |
|                            | 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the Procuring Agency.  |
| 10. Delivery a<br>Document | $f_{1} = 1$ $T_{1} = 1$ $f_{2} = 1$ $f_{1} = 1$ $f_{2} = 1$ $T_{2} = 1$ $T_{2} = 1$ $T_{2} = 1$ $T_{2} = 1$ $T_{1} = 1$ $T_{2} = 1$  |
|                            | 10.2 The contractor will be responsible for delivery, installation & commissioning (if any) as per procurement order in safe, sound and in operational condition at its own risk & cost as per delivery schedule mentioned in <i>"bid data sheet"</i> after issuance of procurement order. Delivery period can be extended by the Procuring Agency on the written request of the contractor, giving compelling reasons for delay in delivery.  |
|                            | <ul> <li>10.3. For purposes of the Contract, DDP trade term used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of Incoterms</li> <li>10.4. Documents to be submitted by the Supplier are specified in SCC.</li> </ul>   |
| 11. Insurance              | 11.1 The Goods supplied under the Contract shall be delivered duty paid (DDP) under<br>which risk is transferred to the buyer after having been delivered, hence<br>insurance coverage is seller's responsibility.   |
| 12. Transportati           | <b>201</b> 12.1 The Supplier is required under the Contact to transport the Goods to a specified place of destination within the Procuring Agency's country, transport to such place of destination in the Procuring Agency's country, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.   |
| 13. Incidental<br>Services | <ul> <li>13.1 The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:         <ul> <li>(a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;</li> </ul> </li> </ul>   |

|                 | (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;  |
|-----------------|--|
|                 | (c) furnishing of a detailed operations and maintenance manual in <b>English</b> for each appropriate unit of the supplied Goods;  |
|                 | <ul> <li>(d) In case of specialized items, supplier will provide necessary training to the PUT Rasul staff / faculty free of cost on-site, in assembly, start-up, operation, maintenance, and repair of the supplied Goods. The terms and conditions for such training, may however, be mutually decided between the PUT Rasul and the successful bidders, if so required.</li> </ul>  |
|                 | <ul> <li>13.2. Prices charged by the Supplier for incidental services shall be included in the Contract Price for the Goods and shall not exceed:</li> <li>(i) the prevailing rates charged for other parties by the Supplier for similar services; and</li> <li>(ii) original price of goods.</li> </ul>  |
| 14. Spare Parts | 14.1 The Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:  |
|                 | <ul> <li>(a) such spare parts as the Procuring Agency may elect to purchase<br/>from the Supplier, provided that this election shall not relieve the<br/>Supplier of any warranty obligations under the Contract; and</li> </ul>   |
|                 | (b) in the event of termination of production of the spare parts:  |
|                 | <ul> <li>(i) advance notification to the Procuring Agency of the pending<br/>termination, in sufficient time to permit the Procuring Agency to<br/>procure needed requirements; and</li> </ul>   |
|                 | <ul> <li>(ii) following such termination, furnishing at no cost to the Procuring<br/>Agency, the blueprints, drawings, and specifications of the spare<br/>parts, if requested.</li> </ul>   |
|                 | 14.2 Lowest evaluated bidder must provide spare parts of the supplied items at market rate at any time after warranty period as per requirement of Procuring Agency.   |
| 15. Warranty    | 15.1 The Supplier warrants that the Goods supplied under the Contract are new,<br>unused, The Supplier further warrants that all Goods supplied under this Contract<br>shall have no defect, arising from design, materials, or workmanship (except<br>when the design and/or material is required by the Procuring Agency's<br>specifications) or from any act or omission of the Supplier, that may develop<br>under normal use of the supplied Goods in the conditions prevailing in the<br>country of final destination. |
|                 | 15.2 Bidders must provide <b>one-year free</b> comprehensive onsite warranty, which must include labor, parts replacement and any other related service. Warranty period will be started after completion of scope of work.  |
|                 | 15.3 The Procuring Agency shall promptly notify the Supplier in writing of any claims arising under this warranty.   |
|                 | 15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Procuring Agency.   |
|                 | 15.5 If the Supplier, having been notified, fails to rectify the defect(s) within the period specified in SCC, within a reasonable period, the Procuring Agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring   |

|     |  |       | Agency may have against the Supplier under the Contract/ relevant provision of PPA-14 including Blacklisting.  |
|-----|--|-------|--|
| 16. | Payment                                    | 16.1  | The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.   |
|     |  | 16.2  | The Supplier's request(s) for payment shall be made to the Procuring Agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to SCC Clause 12, and upon fulfillment of other obligations stipulated in the Contract.  |
|     |  | 16.3  | The currency of payment is Pak. Rupees.  |
| 17. | Prices                                     | 17.1  | Prices charged by the Supplier for Goods delivered and Services performed<br>under the Contract shall not vary from the prices quoted by the Supplier in its<br>bid, with the exception of any price adjustments authorized in SCC or in the<br>Procuring Agency's request for bid validity extension, as the case may be.   |
| 18. | Change<br>Orders                           | 18.1  | The Procuring Agency may at any time, by a written order given to the Supplier, make changes within the general scope of the Contract in any one or more of the following:   |
|     |  |       | <ul> <li>(a) drawings, designs, or specifications, where Goods to be furnished<br/>under the Contract are to be specifically manufactured for the<br/>Procuring Agency;</li> </ul>   |
|     |  |       | (b) the method of shipment or packing;   |
|     |  |       | (c) the place of delivery; and/or  |
|     |  |       | (d) the Services to be provided by the Supplier.   |
|     |  | 18.2. | If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Procuring Agency's change order. But, in no case, the overall impact of the change should exceed 15% of the contract cost and no provisions of PPR-14 should be violated. |
| 19. | Contract<br>Amendments                     | 19.1  | No variation in or modification of the terms of the Contract shall be made except<br>by written amendment signed by the parties. No variation in finalized brands/<br>makes/models shall be allowed except in special conditions where the<br>manufacturer has stopped producing or suspended that model or the latest model<br>of similar series or version has been launched by the manufacturer or non-<br>availability due to international mergers of the manufacturers or similar<br>unavoidable constraints.  |
| 20. | Assignment                                 | 20.1  | The Supplier shall not assign, in whole or in part, its obligations to perform under<br>this Contract, except with the Procuring Agency's prior written consent.   |
| 21. | Sub-contracts                              | 21.1  | If supplier awarded sub-contracts, such award shall not relieve the Supplier from<br>any liability or obligation under the Contract.   |
|     |  |       | Subcontracts must comply with the provisions of GCC Clause 20.   |
| 22. | Delays in the<br>Supplier's<br>Performance | 22.1  | Delivery of the Goods and performance of services shall be made by the Supplier<br>in accordance with the time schedule prescribed by the Procuring Agency in the<br>Schedule of Requirements.   |
|     |  | 22.2  | If at any time during performance of the Contract, the Supplier or its subcontractor(s) encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Procuring Agency in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Procuring Agency   |

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|     |                            | shall evaluate the situation and may at its discretion extend the Supplier's time<br>for performance, with or without liquidated damages, in which case the extension<br>shall be ratified by the parties by amendment of Contract.  |
|     |                            | 22.3 Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.  |
| 23. | Liquidated<br>Damages      | 23.1 Subject to the Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to GCC Clause 24 along with other remedies available under PPR-14.  |
| 24. | Termination<br>for Default | 24.1 The Procuring Agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:   |
|     |                            | <ul> <li>(a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract / bidding documents, or within any extension thereof granted by the Procuring Agency pursuant to GCC Clause 22; or</li> </ul>   |
|     |                            | (b) if the Supplier fails to perform any other obligation(s) under the<br>Contract.  |
|     |                            | <ul><li>(c) if the Supplier, in the judgment of the Procuring Agency has engaged in<br/>corrupt or fraudulent practices in competing for or in executing the<br/>Contract.</li></ul>   |
|     |                            | For the purpose of this clause:  |
|     |                            | <ul> <li>(d) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official, bidder or Contractor in the procurement process or in Contract execution to the detriment of the procuring agency; or misrepresentation of facts in order to influence a procurement process or the execution of a Contract, collusive practices among bidders (prior to or after bid submission) designed to establish bid prices at artificial, noncompetitive levels and to deprive the procuring agency of the benefits of free and open competition and any request for, or solicitation of anything of value by any public official in the course of the exercise of his duty; it may include any of the following:</li> </ul> |
|     |                            | i. coercive practice by impairing or harming, or threatening to impair or<br>harm, directly or indirectly, any party or the property of the party to<br>influence the actions of a party to achieve a wrongful gain or to cause<br>a wrongful loss to another party;   |
|     |                            | ii. collusive practice by arrangement between two or more parties to the procurement process or Contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;  |

|                                   | <ul> <li>iii. offering, giving, receiving or soliciting, directly or indirectly, of<br/>anything of value to influence the acts of another party for wrongful<br/>gain;</li> </ul>   |
|-----------------------------------|--|
|                                   | iv. any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;   |
|                                   | v. obstructive practice by harming or threatening to harm, directly or<br>indirectly, persons or their property to influence their participation in a<br>procurement process, or affect the execution of a Contract or<br>deliberately destroying, falsifying, altering or concealing of evidence<br>material to the investigation or making false statements before<br>investigators in order to materially impede an investigation into<br>allegations of a corrupt, fraudulent, coercive or collusive practice; or<br>threatening, harassing or intimidating any party to prevent it from<br>disclosing its knowledge of matters relevant to the investigation or from<br>pursuing the investigation, or acts intended to materially impede the<br>exercise of inspection and audit process |
|                                   | vi The Contractor may inform the date of placement of order to the foreign<br>Principal / manufacturer, in case of items to be imported within 15 days<br>of issuance of purchase order, if required by the Procuring Agency. If<br>supplier fails to place order within 15 days of the issuance of purchase<br>order and does not provide the aforementioned information (if required<br>by the Procuring Agency), the contract may be considered for<br>termination or cancellation.   |
|                                   | On the happening of any of the above event, the performance guarantee will be forfeited.   |
|                                   | 24.2 In the event the Procuring Agency terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Procuring Agency may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Procuring Agency for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.  |
| 25. Force<br>Majeure              | 25.1 Notwithstanding the provisions of GCC Clauses 22, 23, and 24, the Supplier shall not be liable for forfeiture of its performance guarantee, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.  |
|                                   | 25.2 For purposes of this clause, "Force Majeure" means wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes etc.   |
|                                   | 25.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Procuring Agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring Agency in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.   |
|                                   | 25.4 The procuring agency may extend the delivery period in case of force majeure with or without imposing penalty.  |
| 26. Termination<br>for Insolvency | 26.1 The Procuring Agency may at any time terminate the Contract by giving written<br>notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent.<br>In this event, termination will be without compensation to the Supplier, provided   |

|                                       |                           | that such termination will not prejudice or affect any right of action or remedy<br>which has accrued or will accrue thereafter to the Procuring Agency.   |  |
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| 27. Termination<br>for<br>Convenience |                           | <ul> <li>27.1 The Procuring Agency, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Procuring Agency's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.</li> <li>27.2 The Goods that are complete and ready for shipment within thirty (30) days after the Supplier's receipt of notice of termination shall be accepted by the Procuring Agency at the Contract terms and prices. For the remaining Goods, the Procuring Agency may elect:</li> </ul> |  |
|                                       |                           | (a) to have any portion completed and delivered at the Contract terms and prices; and/or   |  |
|                                       |                           | (b) to cancel the remainder and pay to the Supplier an agreed amount<br>for partially completed Goods and Services and for materials and<br>parts previously procured by the Supplier.   |  |
| 28.                                   | Resolution of<br>Disputes | 28.1 The Procuring Agency and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.   |  |
|                                       |                           | 28.2 If, after thirty (30) days from the commencement of such informal negotiations, the Procuring Agency and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed and/or arbitration as per rule 68 of PPR-14 and in accordance with Arbitration Act-1940.  |  |
| 29.                                   | Governing<br>Language     | 29.1 The Contract shall be written in the language specified in SCC. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.   |  |
| 30.                                   | Applicable<br>Law         | 30.1 The Contract shall be interpreted in accordance with the laws of Punjab (Pakistan) unless otherwise specified in SCC.   |  |
| 31.                                   | Notices                   | 31.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by e-mail and confirmed in writing to the other party's address specified in SCC.   |  |
|                                       |                           | 31.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.   |  |
| 32.                                   | Taxes and<br>Duties       | 32.1 Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Procuring Agency.  |  |
| 33.                                   | Provision of<br>Sample    | 33.1 The procuring agency can demand sample of any good for checking the performance and quality of the machinery / equipment. On satisfactory performance of the sample, the bidder will be responsible for delivery of the same. In case performance or quality of the sample is not satisfactory the procuring agency can reject the same and the bid will be technically dis-qualified.  |  |
| 34.                                   | Repeat Order              | 34.1 The contractor may provide Machinery & Equipment on repeat order (not exceeding 15% of the original procurement order) under the provision of Punjab Procurement Rules 2014, if asked for.  |  |
|                                       |                           |  |  |

# Section VI. Special Conditions of Contract

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

| 1.    | Definitions (GCC<br>Clause 1)                | GCC 1.1 (g)       The Procuring Agency is: Punjab University of Technology Rasul         GCC 1.1 (h)       The Procuring Agency's country is: Islamic Republic of Pakistan         GCC 1.1 (i)       The Supplier is: [Bidder to provide detail here]         GCC 1.1 (j)       The Project Site is: PUT Rasul, 13km Sarai Alamgir Road, Mandi         Bahauddin.       Bahauddin.   |
|-------|--|--|
| 2.    | Country of<br>Origin                         | GCC Clause 3 All countries except India & Israel   |
| 3.    | Performance<br>guarantee (GCC<br>Clause 7)   | 3.1 The amount of performance guarantee, as a percentage of the Contract Price, shall be 10% (Ten per cent of the contract price) in the shape of non-recourse, irrevocable and unconditional bank guarantee or any form as per GCC 7 from scheduled bank of Pakistan on the prescribed format attached with the bidding document.   |
| 4.    | Inspections and<br>Tests (GCC<br>Clause 8)   | <ul> <li>4.1 Pre-delivery / Post-delivery Inspection will be arranged at PUT Rasul. The acceptance parameters are as following: <ol> <li>Confirming to the contractual specifications of items</li> <li>Satisfactory performance of functional test of the equipment</li> <li>Proper test report will be prepared with functional compliance and physical attributes of Equipment, if conducted</li> </ol> </li> </ul>   |
| 5. Pa | acking (GCC<br>Clause 9)                     | Packing should ensure safe and sound delivery at site.   |
| 6.    | Delivery and<br>Documents (GCC<br>Clause 10) | <ul> <li>6.1 Upon delivery, the Supplier shall provide the following documents to the Procuring Agency: <ul> <li>(i) copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;</li> <li>(ii) original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;</li> <li>(iii) copies of the packing list identifying contents of each package;</li> <li>(iv) insurance certificate;</li> <li>(v) Manufacturer's or Supplier's warranty certificate;</li> <li>(vi) Where applicable (Pre shipment/ port/ Procuring Agency Delivery site, inspection certificate), issued by the Procuring Agency nominated inspection agency, and the Supplier's factory inspection report (Inspection type depends on the nature of procurement and volume of procurement); and</li> <li>(vii) Certificate of origin.</li> <li>Note: The above documents at Sr.# (i) would be required even if the equipment has already been imported and is available with the supplier exstock.</li> </ul> </li> </ul> |
| 7.    | Insurance (GCC<br>Clause 11)                 | 7.1 The Goods supplied under the Contract shall be Delivered Duty Paid (DDP) under which risk is transferred to the Buyer after having been delivered. Hence insurance coverage is seller's responsibility. Since the Insurance is seller's responsibility, they may arrange appropriate coverage.   |
| 8.    | Incidental<br>Services (GCC<br>Clause 13)    | <ul> <li>8.1 Incidental services to be provided are:</li> <li>a. At site complete training of Procuring Agency's nominated staff free of cost regarding maintenance and operation of Goods (if required by Procuring Agency).</li> </ul>   |

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|   |           | b. At site preventive maintenance on quarterly basis by the bidder's qualified   |  |
|---|-----------|--|--|
|   |           | staff for one year, without extra cost, starting from final acceptance of goods.   |  |
| consumable spares for the Goods. Other spare parts and con<br>supplied as promptly as possible, but in any case, within seven   |           | GCC 14.1 Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the Goods. Other spare parts and components shall be supplied as promptly as possible, but in any case, within seven (7) days for local and within two (2) months for foreign be supplied of placing the order and opening the letter of credit.   |  |
| 10. Warranty (GCC<br>Clause 15)   |           | 0.1 In accordance with the provisions, the warranty period shall be 12 months (parts and labor warranty etc.) from date of Final Acceptance of the Goods. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, at its discretion, either: |  |
|   |           | (a) Make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC 4,   |  |
|   |           | or   |  |
|   |           | (b) Pay liquidated damages to the Procuring Agency with respect to the failure<br>to meet the contractual guarantees. The rate of these liquidated damages<br>shall be 0.2 % of the late delivered goods per day. The maximum amount<br>of liquidated damages for the whole of the goods or part thereof shall be<br>10% of the contract price.  |  |
|   |           | Or   |  |
|   |           | (c) Replacement of the whole unit at site including transportation, installation, testing & commissioning etc. in case of major defect at his own cost.  |  |
|   |           | GCC 15.4 & 15.5—the period for correction of defects in the warranty period is 7 days.   |  |
| <b>11. Sample Provision</b> 11.1 GCC 33.1 "Samples of any good(s) be provided for demonstration by<br>on his own cost on the demand of technical evaluation committee". |           | 1.1 GCC 33.1 "Samples of any good(s) be provided for demonstration by the supplier on his own cost on the demand of technical evaluation committee".   |  |
| 12. Paymer<br>Clause  | `         | 2.1 GCC 16.1-The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:  |  |
|   |           | Payment in Pak Rupees will be made through cross cheque after delivery, installation and commissioning of the machinery/ equipment after inspection at PUT Rasul. The contractor shall provide all necessary supporting documents along with invoice for payment.  |  |
| 13. Taxes (<br>Clause   |           | <ul><li>13.1 PUT Rasul shall deduct all applicable taxes at the prevailing rate prescribed by the Govt., from all payments submitted by the contractor. Change in the rate of tax announced by the Govt. from time to time will be applicable for the purpose of deduction of tax.</li></ul>   |  |
| 14. Prices (<br>Clause  |           | 4.1 Prices shall be: Fixed and shall not be adjusted.  |  |
| 15. Liquida   | ated 1    | 5.1 GCC 23.1-Applicable rate: 0.2 % of late delivered goods per day  |  |
| Damag<br>Clause   | es (GCC 1 | 5.2 Maximum deduction: 10 % of contract price  |  |
| 16. Resolut   |           | 6.1 The dispute resolution mechanism to be applied pursuant to GCC Clause 28.2 shall be as follows:  |  |
| Clause  | 28)       | In the case of a dispute between the Procuring Agency and the Supplier, the dispute shall be referred to conciliation mediated by a third party, adjudication or arbitration in accordance with the Pakistan Arbitration Act, 1940.  |  |

| 17. | Governing<br>Language (GCC        | 14.1  | The Governing Language shall be: English.   |
|-----|-----------------------------------|-------|---|
|     | Clause 29)                        |       |   |
| 18. | Applicable Law<br>(GCC Clause 30) | 18.1  | The procurement process will be governed under Punjab Procurement Rules – 2014 or latest. The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan which includes the following legislation:   |
|     |                                   |       | a. The Contract Act 1872.   |
|     |                                   |       | b. The Arbitration Act 1940   |
| 19. | Change of Model                   | 19.1  | In case of end of manufacturing of quoted model at the time of delivery, latest / upgraded model of same brand fulfilling all specifications of quoted model may be accepted on the recommendations of relevant technical expert (s) with the approval of Procurement Committee. However, contractor has to provide all necessary documents pertaining to end of quoted model for the satisfaction of procuring agency / Committee. |
| 20. | Notices (GCC                      | 20.1  | Procuring Agency's address for notice purposes:   |
|     | Clause 31)                        |       | Office of Convener, Procurement Committee,  |
|     |                                   |       | Punjab University of Technology Rasul, 13km, Sarai Alamgir Road, Mandi<br>Bahauddin.  |
|     |                                   |       | Tel: 0546-553216 Tel: 0546-553354   |
|     |                                   | 20.2  | Supplier's address for notice purposes:   |
|     |                                   | Pleas | e provide:  |
|     |                                   |       |   |

# Section VII. Schedule of Requirements

#### 7.1 Schedule of Requirements

Description

Number

The delivery schedule expressed as weeks/months stipulates a delivery date which is the date at which delivery is required.

#### **Quantity Delivery schedule** (shipment)

#### In 90 days from date of signing contract <u>1</u>

In order to determine the correct date of delivery hereafter specified, the Procuring Agency has taken into account the additional time that will be needed for international or national transit to the Project Site or to another common place.

## (Electrical Circuit Lab and Electronics Lab) 1 Electrical Circuit Lab

| S.# | Description  | Quantity | Delivery schedule<br>(shipment) in days |
|-----|--|----------|---|
| 1   | Basic Circuit Trainers                             | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | •                                       |
| 2   | Network Trainers                                   | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          |   |
| 3   | Oscilloscopes (DSO-150 MHz)                        | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 5                                       |
| 4   | Regulated DC Power Supplies (30V,3A)               | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 5                                       |
| 5   | Function Generators (3MHz)                         | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          |   |
| 6   | Digital Multi-meter                                | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |
| 9   | Experimental Bench Stations                        | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |
| 10  | Circuit Components (one set)                       | 1        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |
| 11  | Misc. accessories / parts                          | 1        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |

#### 2 Electronics Lab

| S.# | Description  | Quantity | Delivery schedule<br>(shipment) in days |
|-----|--|----------|---|
| 1   | Semiconductor Device Trainers                      | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |
| 2   | Analog Electronics Trainers                        | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |
| 3   | Digital Electronics Trainers                       | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |
| 4   | Integrated Electronics Trainers                    | 20       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |
| 7   | Arbitrary Function Generators (3MHz)               | 12       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |
| 9   | Analog Multi meters                                | 12       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |
| 10  | Soldering Stations                                 | 12       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 2                                       |
| 12  | Device Characteristics Tracer                      | 2        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          |   |
| 13  | Circuit Components (one set)                       | 1        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order |          | 5                                       |

<sup>&</sup>lt;sup>1</sup> The Procuring Agency must specify here the date from which the delivery schedule will start. That date should be either the date of contract award, or the date of contract signature, or the date of opening of letter of credit, or the date of confirmation of the Letter of Credit, as appropriate. The Bid Form should include only a cross-reference to this Schedule.

## **Section VIII. Sample Forms**

#### 8.1. Bid Submission Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with the Technical Bid] No:\_\_\_\_\_ Date:

То

## Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents including Addenda Nos. \_\_\_\_\_\_ if any, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver full package (Equipments for Electrical circuits & Electronics Labs) in conformity with the said bidding documents for the sum of [*total bid amount in words and figures* firm and final including all taxes etc] or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the **guarantee of a bank in a sum equivalent to 10% of the Contract Price** for the due performance of the Contract, in the form prescribed by the Procuring Agency.

We agree to a Bid by this Bid for bid for a period of 120 days from the date fixed from Bid opening under clause 2.3.8 of the Instructions to Bidder, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed (if required), this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

The Composition of our bid consists on separate Technical and financial bids, detail of which is as follows: **Technical bid includes the following:** 

- a) Complete bidding document (without filling) signed and stamped by the bidder
- b) All the forms relevant to the technical bid, to be reproduced on the letter head of the bidder as indicated on each individual form.
- *c)* Original Bid security form (as per **form 8.11**) along with Original financial instrument *[Bank Guarantee / Bank call-deposit (CDR)]* valid for **30 Days**, beyond the validity of Bid.
- d) Brochures of items quoted and other documents listed in check list. Relevant to technical bid.

#### Financial bid includes the following:

- a) Original Bid form (as per **form 8.1 of** Bidding documents) on letter head of the firm, duly signed and stamped.
- b) Price schedule / financial form (as per **form 8.10**) to be reproduced on the letter head of the bidder duly signed and stamped.
- c) Copy of bid security form along with copy of financial instruments [Bank Guarantee / Bank calldeposit (CDR)] valid for **30 Days**, beyond the validity of Bid in the manner as prescribed on the bid security form **8.11**.
- d) Documents listed in check list relevant to financial bid.

#### Page **44** of **56**

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

| Name and address of goods provider | Amount (Rs.) |
|------------------------------------|--------------|
|                                    |              |
|                                    |              |

(If none, state none)

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this \_\_\_\_\_\_ day of \_\_\_\_\_\_ 20\_\_\_\_.

[signature]

[in the capacity of]

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_\_

## 8.3. Manufacturer's/ Authorized Dealer's Authorization Form

[To be signed and stamped by the Bidder and to be attached with Technical Bid]

[See Clause 2.3.6 (iii) of the Instructions to Bidders.]

To:

#### Convener, Procurement Committee, Punjab University of Technology Rasul.

WHEREAS [name of the Manufacturer/ Authorized Dealer], who are established and reputable manufacturers of [name and/or description of the goods] having factories at [address of factory] do hereby authorize [name and address of Agent] to submit a Bid, and subsequently negotiate and sign the Contract with you against for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation to Bids.

[Signature for and on behalf of Manufacturer/ Authorized Dealer]

Note: This letter of authority should be on the letterhead of the Manufacturer and should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should be included by the Bidder in its Bid.

## **8.4. Bidder Profile Form**

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

| Sr.#                       | Particulars                      |  |  |
|----------------------------|----------------------------------|--|--|
| 1.                         | Name of the company:             |  |  |
| 2.                         | Registered Office:               |  |  |
| Address:                   |                                  |  |  |
| Office Telephone Numbe     | er:                              |  |  |
| Email:                     |                                  |  |  |
| 3.                         | Contact Person:                  |  |  |
| Name:                      |                                  |  |  |
| Personal Telephone Num     | ıber:                            |  |  |
| Email Address: Email:      |                                  |  |  |
| 4.                         | Details of District wise offices |  |  |
| Address:                   |                                  |  |  |
| Office Telephone Number:   |                                  |  |  |
| Email:                     |                                  |  |  |
| Address:                   |                                  |  |  |
| Office Telephone Number:   |                                  |  |  |
| Email:                     |                                  |  |  |
| Address:                   |                                  |  |  |
| Office Telephone Number:// |                                  |  |  |
| Email:                     |                                  |  |  |
| 5.                         | Registration Details:            |  |  |
|                            |                                  |  |  |

a) Audited Financial Statement Attachment/Income Tax Returns (Last <u>05</u> years )

#### b) Details of Experience (Last <u>05</u> Years)

| (i)  | Supply of Similar nature & similar cost or above<br>(Agency/Department) | Item Name relevant to<br>package |
|------|---|----------------------------------|
|      | 1-  |                                  |
|      | 2-  |                                  |
|      | 3-  |                                  |
|      | 4-  |                                  |
|      | 5-  |                                  |
| (ii) | Value of total Projects/Tenders/Pos                                     | Amount (Rs. In Million)          |
|      | 1-  |                                  |
|      | 2-  |                                  |
|      | 3-  |                                  |
|      | 4-  |                                  |
|      | 5-  |                                  |

#### c) Staff Detail and last month Payroll with following detail duly signed and stamped

| S# | Name of Employee | Designation | <b>Highest qualification</b> | PEC Registration# |
|----|------------------|-------------|------------------------------|-------------------|
|    |                  |             |                              |                   |

- d) Total Annual Sales /Annual Turnover (last five years)
- e) Fixed Assets detail
- f) Bank balance / credit Limit
- g) detail of set up for provision of after sale service.

**h)** List of offices other than head office with Complete address, ownership / rent agreement, years of office established on the same place.

## 8.5. General Information Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

|                  | Particulars               |  |  |
|------------------|---------------------------|--|--|
| Company Name     |                           |  |  |
| Abbreviated Name |                           |  |  |
|                  |                           |  |  |
| National Tax No. | Sales Tax Registration No |  |  |
|                  |                           |  |  |
| PRA Tax No.      |                           |  |  |
| No. of Employees | Company's Date of         |  |  |
|                  | Formation                 |  |  |
|                  |                           |  |  |

\*Please attach copies of NTN, GST Registration & Professional Tax Certificate

| Registered Office | State/Province  |
|-------------------|-----------------|
| Address           |                 |
|                   |                 |
| City/Town         | Postal Code     |
|                   |                 |
| Phone             | Fax             |
|                   |                 |
| Email Address     | Website Address |
|                   |                 |

#### 8.6. Affidavit

[To be printed on **PKR 300** Stamp Paper, duly attested by oath commissioner. To be attached with Technical Bid]

#### Name:

(Applicant)

I, the undersigned, do hereby certify that all the statements made in the Bidding document and in the supporting documents are true, correct and valid to the best of my knowledge and belief and may be verified by employer if the Employer, at any time, deems it necessary.

The undersigned hereby authorize and request the bank, person, company or corporation to furnish any additional information requested by the Punjab University of Technology Rasul of the Punjab deemed necessary to verify this statement regarding my (our) competence and general reputation.

The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the Punjab University of Technology Rasul. The undersigned further affirms on behalf of the firm that:

- (i) The firm is neither currently blacklisted by any Department nor any litigation is pending before PPRA or any other court of law competence in this regard against any such blacklisting order.
- (ii) The documents/photocopies provided with Bid are authentic. In case, any fake/bogus document was found at any stage, the firm shall be blacklisted as per Law/ Rules.
- (iii) Affidavit for correctness of information.
- (iv) Contractor/firm is not blacklisted or subject to any pending litigation with any Government or Public Department

[Name of the Contractor/Bidder/Supplier] undertakes to treat all information provided as confidential.

Signed by an authorized Officer of the company

Title of Officer:

Name of Company: \_\_\_\_\_

Date:

## 8.7. Performance Guarantee Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with contract documents]

To,

Convener, Purchase Committee,

Punjab University of Technology Rasul

WHEREAS *[name of Supplier]* (hereinafter called "the Supplier") has undertaken, in pursuance of "INVITATION TO BID FOR THE PROVISION/ INSTALLATION OF **Package No.** PUT/PMU /2023-24/14, "Equipments for Electrical circuits & Electronics Labs" to supply [ *(hereinafter called "the Contract"*). Dated \_\_\_\_\_\_ 20\_\_\_\_

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a bank guarantee by a schedule bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of \_\_\_\_\_\_ [amount of the guarantee in words and figures], and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_\_ [amount of guarantee] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ or \_\_\_\_\_ days [insert number of days] after the rectification of the Defects, whichever is later.

#### [NAME OF GUARANTOR]

Signature\_\_\_\_\_

| Name    | <br> | <br> |
|---------|------|------|
| Title   |      |      |
| Address | <br> | <br> |
|         |      |      |

Seal\_\_\_\_\_

Date\_\_\_\_\_

#### 8.8. Technical Bid Form Form-I

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

To,

## Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply, install and commission the following items in conformity with the below mentioned required specification against each item.

| Sr.<br>No. | Item Name with Specifications | Quantity<br>along<br>with Unit | Country<br>of Origin | Quoted Brand<br>with country of<br>manufacturer,<br>Make & Model |
|------------|-------------------------------|--------------------------------|----------------------|--|
| 1          | 2                             | 3                              | 6                    | 7  |
| 1          |                               |                                |                      |  |

#### Stamp & Signature of Bidder

## Form II BIDDER'S COMMENTARY FORM

Bidder is required to insert specifications of quoted item, elaborate variations if any and give remarks against each component of specifications of the item quoted for supply.

| Sr.<br>No. | Item Name with<br>Specifications as per Bid<br>documents | Quoted Item Name with<br>Specifications | Variations | Remarks |
|------------|--|---|------------|---------|
| 1          |  |   |            |         |
| 2          |  |   |            |         |
| 3          |  |   |            |         |

#### Stamp & Signature of Bidder \_\_\_\_\_

#### 8.9. Contract Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with contract documents]

THIS AGREEMENT made the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_ between [name of Procuring Agency] (hereinafter called "the Procuring Agency") of the one part and [name of Supplier] of (hereinafter called "the Supplier") of the other part:

WHEREAS the Procuring Agency invited bids for certain goods and ancillary services, viz., package No. PUT/PMU /2023-24/14, Equipments for Electrical circuits & Electronics Labs. and has accepted a bid by the Supplier for the supply of those goods and services in the sum of *[contract price in words and figures]* (hereinafter called "the Contract Price").

#### NOW THIS AGREEMENT WITNESSES AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:

- (a) the Form of Bid and the Price Schedule submitted by the Bidder;
- (b) Schedule of Requirements;
- (c) the Technical Specifications;
- (d) the General Conditions of Contract;
- (e) the Special Conditions of Contract; and
- (f) the Procuring Agency's Notification of Award.
- (g) Contract agreement
- (h) Complete Bidding Document

3. In consideration of the payments to be made by the Procuring Agency to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Procuring Agency to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract

4. The Procuring Agency hereby covenants to pay the Supplier in consideration of the provision of the goods and services, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

5. All disputes or differences between the parties in connections with or arising out of this agreement shall be settled through arbitration in accordance with the provisions of Punjab Procurement Rules 2014. The arbitration should be made through mutually agreed single arbitrator under Arbitration Act 1940.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year mentioned above.

| <b>Procuring Agency</b>                      | Supplier / Contractor                     |
|--|---|
| Signature:<br>Name:<br>Designation:<br>Date: | Signature:   Name:   Designation:   Date: |
| WITNESS                                      | ·   |

#### WITNESS:

1.\_\_\_\_\_ 2.

## 8.10. Financial Bid Form/Price Schedule

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Financial Bid]

To,

Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply, install and commission the following items in conformity with the below mentioned prices at

| Sr.<br>No. | It          | em Name with Specifications | Country of<br>origin,<br>brand<br>name, make<br>& model | along<br>along | Unit<br>Price<br>without<br>GST | GST per |   | Total Price |
|------------|-------------|-----------------------------|---|----------------|---------------------------------|---------|---|-------------|
| 1          |             | 2                           | 3   | 4              | 5                               | 6       | 7 | 8           |
|            |             |                             |   |                |                                 |         |   |             |
|            | Grand Total |                             |   |                |                                 |         |   |             |

#### Amount of Grand total in Words:

We understand that the Procuring Agency intends to award the contract to the lowest evaluated bidder. We will not claim any additional cost in respect of aforesaid equipment due to any price variations till the expiry of warranty period. We undertake, to complete the work / supply within the given time period in case we are declared lowest evaluated bidder.

# Note: All applicable taxes at the time of payment will be deducted. Change in the rate of tax announced by the Govt. from time to time will be applicable for the purpose of deduction of tax.

Note:

In case of difference between unit price and total price, unit price shall prevail and total price shall be "final". (*Please refer ITB clause 2.5.6*).

In case of difference between amount in "words" and amount in "figures", amount in "words" shall be considered final.

#### Stamp & Signature of Bidder \_\_\_\_\_

## 8.11. Bid Security Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid. Required if the bid security is in shape of bank guarantee]

Whereas [name of the Bidder] (hereinafter called "the Bidder") has submitted its Bid dated [date of submission of Bid] for the supply of [name and/or description of the goods] (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that WE [name of bank] of [name of country], having our registered office at [address of bank] (hereinafter called "the Bank"), are bound unto [name of Procuring Agency] (hereinafter called "the Procuring Agency") in the sum of for which payment well and truly to be made to the said Procuring Agency, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_\_\_ day of \_\_\_\_\_\_ 20\_\_\_\_.

THE CONDITIONS of this obligation are:

- 1. If the Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Bid Form; or
- 2. If the Bidder, having been notified of the acceptance of its Bid by the Procuring Agency during the period of Bid validity:
  - (a) fails or refuses to execute the Contract Form, if required; or
  - (b) fails or refuses to furnish the Performance Guarantee, in accordance with the Instructions to Bidders;

we undertake to pay to the Procuring Agency up to the above amount upon receipt of its first written demand, without the Procuring Agency having to substantiate its demand, provided that in its demand the Procuring Agency will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including thirty (30) days after the period of Bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

[Signature of the bank]

[The Procuring Agency may alter or modify the details of this form in accordance with PPR-14 keeping in view its requirements, nature of procurement i.e. Bulk/Framework, item wise/package wise and form of contract to be adopted (i.e. DDP, CIF, C&F, FOR, FOP etc. if applicable) However, for a standard procurement/contract contents of a generalized this Form may be as provided above.]

## 8.12. Draft Integrity Pact

(For the procurement of 10,000,000 and above)

The lowest evaluated successful bidder shall sign and stamp the below mentioned Integrity Pact for the procurement contracts exceeding Rupees 10 million. Failure to provide such integrity pact shall make the bidder non-responsive.

| Contract No                  | _ Dated | Contract Value: [To be filled in at the |
|------------------------------|---------|---|
| time of signing of Contract] |         |   |

#### Contract Title: \_\_\_\_\_

Without limiting the generality of the foregoing, [name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GOP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GOP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GOP under any law, contract or other instrument, be voidable at the option of GOP.

Notwithstanding any rights and remedies exercised by GOP in this regard, [name of Supplier] agrees to indemnify GOP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GOP in an amount equivalent to ten time the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GOP.

| Name of Buyer: | Name of Seller/Supplier: |
|----------------|--------------------------|
| Signature:     | Signature:               |
| [Seal]         | [Seal]                   |

#### Certificate

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid.]

- A. We undertake that our organization M/S\_\_\_\_\_\_ is not black listed by any Government / Semi-Government / Agency / Autonomous Bodies in any part of Pakistan.
- B. We undertake that in case our bid accepted the goods to be supplied under the contract agreement will be genuine, brand new, non-refurbished, un-altered in any way, as per required specification, imported (if any) through proper channel.
- C. We have read all terms & conditions and undertake to abide by all Terms & Conditions mentioned in this bidding document.
- D. We also hereby categorically confirm that the proposal / bid offered by us complies to particulars and specification as given in the Bidding Documents.
- E. It is certified that quoted rates against each item are as per market rate and we will refund the excess amount, in case we offered the same items at lowest rate anywhere in Pakistan.

# Section IX- Check List

[To be signed and stamped and presented on Bidder's letter head pad] The provision of this checklist is essential prerequisite along with submission of tenders (with technical

| Sr.<br># | Detail  | Evidence attached<br>(Yes/No) | Given at<br>page(s) # |
|----------|---|-------------------------------|-----------------------|
| 1        | Original or print of online bid fee receipt for online purchase of tender along with technical proposal.  | (103/100)                     |                       |
| 2        | 02% Bid Security of estimated cost of articles / items given by the department. The   |                               |                       |
| 2        | Bid security must be submitted with technical proposal.   |                               |                       |
| 3        | Active Registration with Income Tax Authorities (National Tax Number NTN) at  |                               |                       |
| 5        | least five years old  |                               |                       |
| 4        | Copy of active Registration with Sales Tax Authorities (STRN)   |                               |                       |
| 5        | Copy of active Registration (Professional Tax Certificate)  |                               |                       |
| 6        | Manufacturer's/Dealer's/Seller's Authorization as per form 8.3  |                               |                       |
| 7        | Max $\underline{05}$ similar nature supply having cost 10 million or above performed / executed   |                               |                       |
|          | in public sector during last 05 years (supply order or completion certificate).   |                               |                       |
|          | The procuring agency reserves the right to verify from the issuer.  |                               |                       |
| 8        | General Information Form (as per form 8.5 of Bidding documents) on letter head  |                               |                       |
|          | of the firm duly signed and stamped.  |                               |                       |
| 9        | Affidavit (as per form 8.6) on non-judicial Stamp Paper minimum worth of Rs.  |                               |                       |
|          | <b>300</b> /- mentioning the followings   |                               |                       |
|          | (i) The documents/ photocopies provided with Bid are authentic. In case of  |                               |                       |
|          | any fake/bogus document noticed at any stage. They shall be black listed  |                               |                       |
|          | as per Rules / Laws.  |                               |                       |
|          | (ii) Affidavit for correctness of information.  |                               |                       |
|          | Contractor/firm is not blacklisted or subject to any pending litigation with any  |                               |                       |
|          | Government or Public Department.  |                               |                       |
| 10       | Performance Guarantee Form (as per form 8.7 of Bidding documents) on letter   |                               |                       |
|          | head of the firm, duly signed and stamped at the time of contract signing in case   |                               |                       |
| 1.1      | of bank guarantee otherwise not applicable.   |                               |                       |
| 11       | Technical Bid Form (as per <b>form 8.8</b> of Bidding documents) on letter head of the  |                               |                       |
| 10       | firm duly signed and stamped.   |                               |                       |
| 12       | Financial Bid Form (as per <b>form 8.10</b> of Bidding documents) on letter head of the   |                               |                       |
| 13       | firm, duly signed and stamped in financial bid.<br>Bid Security Form (as per <b>form 8.11</b> of Bidding documents) on letter head of the           |                               |                       |
| 15       | firm, duly signed and stamped in case of bank guarantee otherwise not applicable.   |                               |                       |
| 14       | i. Work order / supply order / purchase order of previous relevant experience   |                               |                       |
| 14       | for turnout.  |                               |                       |
|          | ii. Company profile. Staff list along with location and address.  |                               |                       |
|          | iii. Income Tax Returns, National tax number Certificate, General Sale Tax  |                               |                       |
|          | Number Certificate (last 05 year).  |                               |                       |
|          | Bidders profile Form (as per <b>form 8.4</b> of Bidding documents) on letter head of the  |                               |                       |
|          | firm, duly signed and stamped.  |                               |                       |
| 15       | Bank Balance Statement for June, 2023   |                               |                       |
| 16       | Certificate by bidder for provision of after sale service for 05 years.   |                               |                       |
| 17       | Payroll of June 2023 along with degrees, diplomas of technical staff  |                               |                       |
| 18       | Letter of Satisfaction after sale service by the client who has purchase of   |                               |                       |
|          | minimum 05 million  |                               |                       |
| 19       | Presentation of company, its products and repair & maintenance facilities for   |                               |                       |
|          | demonstration, word format of specifications (in soft form in USB)  |                               |                       |
| 20       | <b>Technical Brochures/ catalogues</b> of goods quoted, mentioning its specifications, manufacture's Brand and model etc. in hard & in word format. |                               |                       |
| 21       | On letter head certificate that supplier will provide spare parts demanded by the   |                               |                       |
| -        | procuring agency within 07 days for parts available in Pakistan and within 60   |                               |                       |
|          | days for foreign spare parts.   |                               |                       |
| 22       | On letter head certificate that supplier is not black listed etc (as per certificate  |                               |                       |
|          | provided in bidding document)   |                               |                       |
| 23       | One original and one copy of Bid provided   |                               |                       |

#### Stamp & Signature of Bidder \_\_\_\_

Issued to:



# Punjab University of Technology Rasul

# BIDDING DOCUMENTS FOR National Competitive Bidding

# **Procurement of** Equipments for Power Electronics Lab

| Bid Reference No:                   | PUT/PMU/2023-24/15  |
|-------------------------------------|---|
| Package No.15<br>Package Name:      | Equipments for Power Electronics Lab                                      |
| Procurement Procedure & Method      | Single Stage Two Envelope (Least Cost Method,<br>Accumulative Cost Basis) |
| Last Date & Time of Receipt of Bids | As per Advertisement  |
| Bid Opening Date & Time:            | As per Advertisement  |

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|                          | /  |    |

Signature of bidder with official stamp Dated:

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## Section-I: INVITATION TO BIDS TENDER NOTICE

**Punjab University of Technology Rasul** invites sealed bids/proposals from well-reputed and financially sound firms/suppliers having sufficient relevant experience as per bid documents, registered with Income Tax and Sales Tax Departments as per PPRA rules for purchase of goods for the ADP Scheme titled "Provision of Infrastructural Academic and Operational facilities to the Punjab University of Technology Rasul M.B.Din" in lots/packages given below to be delivered and equipments installed (if any) in concerned Lab(s), at PUT Rasul on DDP (Duty Delivered Paid) basis more specifically described in Technical Specifications.

| Tender No.    | Description of Packages | Estimated<br>Cost/ Bid<br>Security (Rs.) | Mode of Procurement   | Closing Date &<br>Time and<br>opening time | Bid rates<br>Validity &<br>Delivery<br>Period |
|---------------|-------------------------|--|-----------------------|--|---|
| PUT/PMU/2023- | Package/ lot No. 15     | 20,948,000/                              | Single stage two      | 25.09.2023                                 | 120 days                                      |
| 24/15         | Equipments for Power    | 419,000                                  | envelope procedure on | 11:00AM                                    | 90 days                                       |
|               | Electronics Lab         |  | cumulative cost basis | 11:30AM                                    | -   |

Interested eligible bidders can obtain bid documents in English language containing detailed item specifications, quantity and terms & conditions from office of the Project Director, Punjab University of Technology Rasul from 09:00AM. to 03:00PM. on any working day (Monday to Friday), on submission of written application and upon payment of non-refundable tender fee Rs. **5000**/- per package which should be deposited in university account No. **3174230619** NBP GSE Rasul Branch code 0469, Account Title: "Punjab University of Technology Rasul, Fund". Bid documents can also be downloaded from websites of PPRA or from Punjab University of Technology Rasul <u>www.putrasul.edu.pk.</u> In this case, tender fee can be transferred/ deposited online per package and send scanned copy of online transfer /deposit receipt by email before closing date for issuance of bid registered number. In case of any query, guidance can be sought from Imtiaz Ahmad Awan, Procurement Officer of the University. (Tel: +92 (336) 1031892, Email: rasulian786@gmail.com).

The sealed bids/proposals marked with Tender for relevant Package No. & name supported with Financial Proposal along with a bid security as given against each lot above in shape of CDR/ Bank Guarantee in favor of the Punjab University of Technology Rasul should reach in the Office of Project Director, Punjab University of Technology Rasul latest by closing date & time given above. Bids will be opened on the same day after 30 minutes of closing time by the Procurement Committee, in the presence of the bidders or their authorized representatives who wish to attend the meeting.

PUT Rasul will not be responsible for any cost or expense incurred by Bidders in connection with the preparation or delivery of Bids. In case the last date of submission of bids falls on closed official days/ holidays, the date for submission and opening of the bids shall be the next working day (Monday to Friday). University NTN is 9022261-4.

- Bid documents will be issued from the date of publication of Tender Notice.
- Last date of issuance of bid documents is September 23,2023.

Note: Procurement shall be governed by Punjab Procurement Rules, 2014.

Project Director (PMU), Punjab University of Technology Rasul

Section II Instructions to Bidders (ITB)

## **General Instructions 2.1. Introduction**

| 2.1.1 Scope of<br>Bid                       | <ul> <li>i) The Procuring Agency (PA), as indicated in the Bid Data Sheet (BDS) invites Bids for the provision<br/>of Goods as specified in the Section-IV Bid Data Sheet (BDS) and Section III - Technical<br/>Specifications &amp; Section VII- Schedule of Requirements. Bidders must submit bids of all items of<br/>the lot. The successful bidder will be responsible for delivery, installation &amp; commissioning (if any)<br/>of all items at consignee's end in new, safe, sound and in operational condition within the specified<br/>period and timelines as stated in the Bid Data sheet (BDS).</li> </ul>   |
|---|--|
| 2.1.2 Source of<br>Funds                    | <ul> <li>PUT Rasul has received budget from the Government of Punjab. The Procuring Agency intends to<br/>apply the provided funds/ a portion of this budget to make eligible payments under the contract for<br/>which the Invitation to bids has been issued.</li> </ul>   |
| 2.1.3 Eligible<br>Bidders                   | <ul> <li>i) This Invitation for Bids is open to all suppliers, except as provided hereinafter.</li> <li>ii) Government-owned enterprises may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government (provide certificate).</li> <li>iii) Bidders shall not be under a declaration of blacklisting by any Government department or Punjab Procurement Regulatory Authority (PPRA) (provide certificate).</li> <li>iv) The Bidders must have NTN and STRN and active tax payer status</li> <li>v) A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be Non-Responsive.</li> <li>vi) A Bidder may be ineligible if –</li> </ul>   |
|   | <ul> <li>a) The Bidder is declared bankrupt or, in the case of company or firm, insolvent;</li> <li>b) Payments in favour of the Bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting, in accordance with the national laws, in the total or partial loss of the right to administer and dispose of its property;</li> <li>c) Legal proceedings are established against such Bidder involving an order suspending payments and which may result, in accordance with the national laws, in a declaration of bankruptcy or in any other situation entailing the total or partial loss of the right to administer and dispose of the property;</li> </ul>   |
|   | <ul> <li>d) The Bidder is convicted, by a final judgment, of any offence involving professional conduct;</li> <li>e) The Bidder is debarred and blacklisted due to involvement in corrupt and fraudulent practices in accordance with the provision of section 17A of PPRA Act, 2009 and Rule-21, read with Schedule appended with, Punjab Procurement Rules, 2014.</li> <li>f) The Bidder is debarred and blacklisted in general (i.e., to the extent of all public procurement) due to consistent performance failure in accordance with the section 17A of PPRA Act, 2009 and Rule-21, read with the procurement performance failure in accordance with the section 17A of PPRA Act, 2009 and Rule-21, read with the section 17A of PPRA Act, 2009 and Rule-</li></ul> |
| 2.1.4. Eligible<br>Goods<br>and<br>Services | <ul> <li>Rule-21, read with Schedule appended with, Punjab Procurement Rules, 2014.</li> <li>g) The firm, supplier and contractor is blacklisted/ debarred by any international organization.</li> <li>i) All goods and related services to be supplied under the contract shall have their origin in eligible source countries, as per policy of Govt. of Pakistan, and all expenditures made under the contract will be limited to such goods and services.</li> <li>ii) For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.</li> <li>iii) The origin of goods and services is distinct from the nationality of the Bidder.</li> </ul>   |
| 2.1.5 Cost of<br>Bidding                    | <ul> <li>The Bidder shall bear all costs associated with the preparation and submission of its bid, and the<br/>Procuring Agency named in the Bid Data Sheet, hereinafter referred to as "the Procuring Agency,"<br/>will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the<br/>bidding process.</li> </ul>   |
| 2.1.6 One<br>person<br>one Bid              | <ul> <li>As per Rule 36A of Punjab Procurement Rules 2014, a Bidder shall submit only one Bid in the same<br/>bidding process, either individually as a Bidder or as a member in a joint venture or any similar<br/>arrangement.</li> </ul>  |

Signature of bidder with official stamp Dated:

| <br><b>T</b> 1 |      |  |
|----------------|------|--|
|                | iii) | venture in the same Bidding process.<br>A Bidder, if acting in the capacity of sub-contractor in any Bid, shall not submit bid for the same. |
|                | ii)  | No Bidder can be a sub-contractor while submitting a Bid individually or as a member of a joint  |

## 2.2. The Bidding Documents

|       |                                    | g Documents  |
|-------|------------------------------------|--|
|       | Content of<br>Bidding<br>Documents | <ul> <li>i) The goods required, bidding procedures, and contract terms are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents include: <ul> <li>(a) Instructions to Bidders (ITB)</li> <li>(b) Technical Specifications</li> <li>(c) Bid Data Sheet</li> </ul> </li> <li>(d) General Conditions of Contract (GCC)</li> <li>(e) Special Conditions of Contract (GCC)</li> <li>(f) Schedule of Requirements</li> <li>(g) Bid Submission Form</li> <li>(h) Manufacturer's Authorization Form (if applicable)</li> <li>(i) Bidder Profile Form</li> <li>(j) General Information Form</li> <li>(k) Affidavit</li> <li>(l) Bid Security Form (if bid security as bank guarantee)</li> <li>(m) Technical Bid Form</li> <li>(n) Contract Form (at the time of contract signing)</li> <li>(o) Financial Bid Form/ Price Schedule</li> <li>(p) Performance Guarantee Form/ CDR (at the time of contract signing)</li> <li>(q) Draft Integrity Pact (if applicable)</li> <li>(r) Certificate</li> <li>(s) Bidders Commentary Form</li> <li>(f) Check list</li> <li>(ii) The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its bid.</li> <li>(iii) In case of discrepancies between the Invitation to Bid and the Bidding Documents Isted in TTB 2.2.1 (i) above, the said Bidding Documents, not in conflict with any provision of PPR-14, will take precedence.</li> <li>(v) The Procuring Agency or from its website or website of PPRA. Reconfirming from the Procuring Agency or form its website of the Bidder.</li> </ul> <li>(i) A prospective Bidder requiring any clarification of the bidding documents may notify the Procuring Agency in writing or by email at the Procuring Agency's address indicated in Bid Data Sheet. The Procuring Agency will responsibility of the Bidder.</li> |
| 2.2.2 | of Bidding                         | <ul> <li>from the Procuring Agency or from its website or website of PPRA. Re-<br/>confirming from the Procuring Agency that all pages/ contents have been<br/>properly and clearly received is the prime responsibility of the Bidder.</li> <li>i) A prospective Bidder requiring any clarification of the bidding documents<br/>may notify the Procuring Agency in writing or by email at the Procuring<br/>Agency's address indicated in Bid Data Sheet. The Procuring Agency will<br/>respond in writing to any request for clarification of the bidding documents</li> </ul>  |
|       |                                    | <ul> <li>submission of bids prescribed in the Bid Data Sheet. Written copies of the Procuring Agency's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective bidders that have received the bidding documents.</li> <li>ii) A prospective Bidder requiring any clarification of the Bidding Documents may notify the Procuring Agency in writing or in electronic form that</li> </ul>  |
|       |                                    | <ul> <li>provides record of the content of communication at the Procuring Agency's address indicated in the <b>BDS</b>.</li> <li>iii) The Procuring Agency will within three (3) working days after receiving the request for clarification, respond in writing or in electronic form to any</li> </ul>  |

| 2.3.4 Bid Currencies     | i)   | Full and final prices shall be quoted in <b>Pak Rupees</b>   |
|--------------------------|------|--|
|                          | ii)  | Prices indicated on the bid form shall be <b>delivered duty paid (DDP) prices</b> .  |
| 2.3.3 Bid Prices         | i)   | Item wise total price in figures and grand total price, in words and figures<br>should be quoted at the respective columns of the Bid Form. The total quoted<br>price must be inclusive of all applicable taxes and duties as per prevailing<br>Govt. rules, transportation / delivery, installation and commissioning charges<br>etc. in Pak Rupees.  |
| 2.3.2 Bid Form           | i)   | The Bidder shall complete the Bid Form and Price Schedule (Financial Bid) furnished in the bidding documents, indicating the goods to be supplied, a brief description of goods, their country of origin, brand, model, quantity and prices.   |
| 2.3.1 Language of<br>Bid | i)   | The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Procuring Agency shall be written in the language specified in the <b>Bid Data Sheet.</b> Supporting documents and printed literature furnished by the Bidder should be in same language.  |
| 2.3. Preparation         | of   | Bids   |
|                          | iii) | notified of the amendment in writing or by email, and will be binding on them.<br>In order to allow prospective bidders reasonable time in which to take an<br>addendum into account in preparing their bids, the Procuring Agency, at its<br>discretion, may extend the deadline for the submission of bids.  |
| of Bidding<br>Documents  | ii)  | three (3) days before the closing date of the submission of Bid, the Procuring<br>Agency, for any reason, whether at its own initiative or in response to a<br>clarification requested by a prospective Bidder, may modify the bidding<br>documents by amendment.<br>All prospective bidders that have received the bidding documents will be  |
| 2.2.3 Amendment          | i)   | exclusively through the use of an Addendum pursuant to ITB 2.2.3.<br>Non-attendance at the pre-Bid meeting will not be a cause for<br>disqualification of a Bidder.<br>At any time prior to the deadline for submission of bids, but not later than  |
|                          |      | questions asked by Bidders, including those during the meeting<br>(without identifying the source) and the responses given, together with<br>any responses prepared after the meeting will be transmitted promptly<br>to all prospective Bidders who have obtained the Bidding Documents<br>and by uploading same on the website of the procuring agency. Any<br>modification to the Bidding Documents that may become necessary as<br>a result of the pre-Bid meeting shall be made by the Procuring Agency |
|                          | vi)  | Minutes of the pre-Bid meeting, if applicable, including the text of the   |
|                          | v)   | The Bidder's designated representative is invited at the Bidder's cost to attend a pre-Bid meeting at the place, date and time mentioned <b>in the BDS</b> . During this pre-Bid meeting, prospective Bidders may request clarification of the schedule of requirement, the Evaluation Criteria or any other aspects of the Bidding Documents.   |
|                          | iv)  | Copies of the Procuring Agency's response will be uploaded on the website<br>of procuring agency on given date and forwarded to identified Prospective<br>Bidders through an expeditious identified source of communication, e.g.: e-<br>mail etc., including a description of the inquiry, but without identifying its<br>source.   |
|                          |      | request for clarification provided that such request is received not later than seven (7) days prior to the deadline for the submission of Bids. As prescribed in <b>ITB 2.2.2 (i), above</b> .  |

| 2.3.5 Documents<br>Establishing   | i) The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its  |
|---|--|
| Bidder's  | bid is accepted.   |
| Eligibility and<br>Qualification  | ii) The documentary evidence of the Bidder's eligibility to Bid shall establish to the Procuring Agency's satisfaction that the Bidder, at the time of submission of its Bid, is eligible as defined under ITB Clause 2.1.3.   |
|   | iii) The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Procuring Agency's satisfaction:  |
|   | (a) that, in the case of a Bidder offering to supply goods under the contract<br>which the Bidder did not manufacture or otherwise produce, the Bidder has<br>been duly authorized by the goods' Manufacturer [Manufacturer's/<br>Authorized Dealer's Authorization Form No. 8.3] or producer/Authorized<br>dealer to supply the same in Pakistan;   |
|   | (b) that the Bidder has the financial, technical, and personnel capability necessary to perform the contract;  |
|   | (c) that, in the case of a Bidder not doing business within Pakistan, the Bidder<br>is or will be (if awarded the contract) represented by an Agent in that country<br>equipped, and able to carry out the Supplier's maintenance, repair, and spare<br>parts stocking obligations prescribed in the Conditions of Contract and/or<br>Technical Specifications; and  |
|   | (d) that the Bidder meets the qualification criteria listed in the Bid Data Sheet.   |
| 2.3.6 Documents<br>Establishing<br>Goods'<br>Eligibility and<br>Conformity to | <ul> <li>Pursuant to ITB Clause 2.1.4, the Bidder shall furnish, as part of its bid,<br/>documents establishing the eligibility and conformity to the bidding<br/>documents of all goods and services which the Bidder proposes to supply<br/>under the contract.</li> </ul>   |
| Bidding<br>Documents  | <ul> <li>The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule/Financial Bid Form of the country of origin of the goods and services offered which shall be confirmed by a Certificate of Origin issued at the time of shipment.</li> </ul>   |
|   | iii) The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:   |
|   | <ul> <li>(a) a detailed description of the essential technical and performance characteristics of the goods;</li> <li>(b) a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period to be specified in the Bid Data Sheet, following commencement of the use of the goods by the Procuring Agency; and</li> <li>(c) an item-by-item commentary on the Procuring Agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.</li> <li>iv) For purposes of the commentary to be furnished, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring Agency in its Technical Specifications, are intended to be descriptive only and not restrictive.</li> <li>(a) If some of the specifications are not available in the literature / brochure provided by the bidder but the same have been mentioned / reported / committed in the Commentary Form by the bidder, the bidder will give an undertaking or in response of Procuring Agency's</li> </ul> |

|                    | conform to the required / hid appointing. The manual  |
|--------------------|---|
|                    | <ul> <li>conform to the required / bid specifications. The procuring agency reserve the rights to accept or reject the clarification.</li> <li>(b) The commentary form facilitates the bidder to elaborate their bid offer in terms of required accessories / specifications which are not available in the technical literature / brochure of the goods. In case the brochure provided by the bidder meets all the required specifications than commentary form has no significant impact.</li> <li>(c) In case of contradiction between the brochure and commentary form, the information available in the brochure will prevail.</li> <li>v) Where a sample(s) is required by a procuring agency, the sample shall be:</li> <li>(a) submitted as part of the bid, in the quantities, dimensions and other details requested in the BDS;</li> <li>(b) carriage paid;</li> </ul> |
|                    | <ul> <li>(c) received on, or before, or after technical bids the closing time and date for the submission of bids as specified in DBS; and</li> <li>(d) Evaluated to determine compliance with all characteristics listed in the</li> </ul>   |
|                    | BDS.  |
|                    | <ul> <li>vi) The Procuring Agency may retain the sample(s) of the successful Bidder till the successful delivery of the goods. A Procuring Agency may reject the Bid if the sample(s)-</li> <li>(a) do(es) not conform to all characteristics prescribed in the bidding</li> </ul>  |
|                    | documents; and  |
|                    | (b) is/are not submitted within the specified time clearly mentioned in the<br>Bid Data Sheet.  |
|                    | vii) Where it is not possible to avoid using a propriety article as a sample, a<br>Bidder shall make it clear that the propriety article is displayed only as an<br>example of the type or quality of the goods being Bided for, and that<br>competition shall not thereby be limited to the extent of that article only.   |
|                    | <ul> <li>viii) Samples made up from materials supplied by a Procuring Agency shall not<br/>be returned to a Bidder nor shall a Procuring Agency be liable for the cost<br/>of making them.</li> </ul>   |
|                    | ix) All samples produced from materials belonging to an unsuccessful Bidder<br>may be kept by the Procuring Agency till thirty (30) days from the date of<br>award of contract or exhaust of all the grievance forums (including those<br>pending at Authority's Level or in some Court of Law).  |
|                    | <ul> <li>x) The Bidder shall also furnish a list giving full particulars, including available sources and current prices of goods, spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period specified in the BDS following commencement of the use of the goods by the Procuring Agency.</li> </ul>   |
|                    | xi) The required documents and other accompanying documents must be in<br>English. In case any other language than English is used the pertinent<br>translation attested by the embassy in country of manufacturer into English<br>shall be attached to the original version.   |
| 2.3.7 Bid Security | i) The Bidder shall furnish, as part of its bid, a bid security in the amount specified in the Bid Data Sheet.  |
|                    | <ul> <li>The bid security is required to protect the Procuring Agency against the<br/>risk of Bidder's conduct which would warrant the security's forfeiture<br/>Pursuant to ITB Clause 2.3.8.</li> </ul>   |
|                    | iii) The bid security shall be in Pak. Rupees and shall be in one of the following forms:   |
|                    | <ul><li>(a) Bank guarantee or Call Deposit Receipt (CDR), valid for thirty (30) days beyond the validity of bid.</li></ul>  |
|                    | iv) Any bid without bid security or less than the amount as demanded in invitation to bid will be rejected by the Procuring Agency as nonresponsive   |

| <ul> <li>Validity of Bids</li> <li>bids</li> <li>the date of bid opening prescribed by the Procuring Agency. A bid valid for a shorter period shall be rejected by the Procuring Agency as nonresponsive.</li> <li>ii) In exceptional circumstances, the Procuring Agency may solicit the Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder accepting the request will not be required nor permitted to modify its Bid.</li> <li>2.3.9 Format and Signing of Bid</li> <li>i) The Bidder shall prepare an original and the number of copies of the Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.</li> <li>ii) The Bidder shall authorize a person/ persons for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.</li> <li>iii) The original and the copy or copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to bind the Bidder to the contract. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the Bid. The name and position held by each person.</li> <li>iv) Any interlineations, erasures &amp; cutting, or overwriting shall be valid only if they are signed and stamped by the person or persons signing the bid.</li> </ul>   |                                    | v)   | Unsuccessful bidders' bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Procuring Agency as rule $38(2)(a)(vii)$ of PPR14.   |
|--|------------------------------------|------|---|
| <ul> <li>(a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form; or</li> <li>(b) in the case of a successful Bidder, if the Bidder fails:         <ul> <li>(i) to sign the contract Or</li> <li>(ii) to furnish performance guarantee</li> <li>(iii) If the blacklisting proceedings under Section-17A of PPRA Act, 2009 read with Rule-21 of PPR-14 are initiated and the bidder is declared blacklisted after due process of law.</li> </ul> </li> <li>2.3.8 Period of Validity of Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring Agency. A bid valid for a shorter period shall be rejected by the Procuring Agency as nonresponsive.</li> <li>ii) In exceptional circumstances, the Procuring Agency may solicit the Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The bid security provided shall also be suitably extended. A Bidder may refuse the request will not be required nor permitted to modify its Bid.</li> <li>2.3.9 Format and Signing of Bid</li> <li>i) The Bidder shall prepare an original and the number of copies of the Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.</li> <li>ii) The Bidder shall uthorize a person/ persons for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for al consequences.</li> <li>iii) The original and the copy or copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to bid. The name and position held by each person signing the authorization must be ty</li></ul>                 |                                    | vi)  |   |
| <ul> <li>by the Bidder on the Bid Form; or         <ul> <li>(b) in the case of a successful Bidder, if the Bidder fails:</li></ul></li></ul>   |                                    | vii) | The bid security may be forfeited:  |
| <ul> <li>(i) to sign the contract Or         <ul> <li>(ii) to furnish performance guarantee</li> <li>(iii) If the blacklisting proceedings under Section-17A of PPRA Act, 2009 read with Rule-21 of PPR-14 are initiated and the bidder is declared blacklisted after due process of law.</li> </ul> </li> <li>2.3.8 Period of Validity of Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring Agency. A bid valid for a shorter period shall be rejected by the Procuring Agency as nonresponsive.</li> <li>ii) In exceptional circumstances, the Procuring Agency may solicit the Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder accepting the request will not be required nor permitted to modify its Bid.</li> <li>2.3.9 Format and Signing of Bid</li> <li>ii) The Bidder shall prepare an original and the number of copies of the Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.</li> <li>ii) The Bidder shall authorize a person/ persons for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.</li> <li>iii) The original and the copy or copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person dup authorized to bind the Bidder to the contract. This authorization shall be may here and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. Al</li></ul> |                                    |      |   |
| <ul> <li>(ii) to furnish performance guarantee         <ul> <li>(ii) to furnish performance guarantee</li> <li>(iii) If the blacklisting proceedings under Section-17A of PPRA Act, 2009 read with Rule-21 of PPR-14 are initiated and the bidder is declared blacklisted after due process of law.</li> </ul> </li> <li>2.3.8 Period of Validity of Bids</li> <li>i) Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring Agency. A bid valid for a shorter period shall be rejected by the Procuring Agency as nonresponsive.</li> <li>ii) In exceptional circumstances, the Procuring Agency may solicit the Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder accepting the request will not be required nor permitted to modify its Bid.</li> <li>2.3.9 Format and Signing of Bid</li> <li>i) The Bidder shall prepare an original and the number of copies of the Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.</li> <li>ii) The Bidder shall authorize a person/ persons for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.</li> <li>iii) The original and the copy or copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder ot the contract. This authorization must be typed or printed below the signature. All pages of the Bid, shall be signed and stamped by the authorized person.</li> <li>iv) Any interlineations, erasures &amp; cutting, or o</li></ul>     |                                    |      | (b) in the case of a successful Bidder, if the Bidder fails:  |
| <ul> <li>(iii) If the blacklisting proceedings under Section-17A of PPRA Act, 2009 read with Rule-21 of PPR-14 are initiated and the bidder is declared blacklisted after due process of law.</li> <li><b>2.3.8 Period of</b> <ul> <li><b>Validity of</b>                  Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring Agency. A bid valid for a shorter period shall be rejected by the Procuring Agency as nonresponsive.</li> <li><b>ii</b> In exceptional circumstances, the Procuring Agency may solicit the Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The bid security provided shall also be suitably extended. A Bidder accepting the request without forfeiting its bid security. A Bidder accepting the request will not be required nor permitted to modify its Bid.</li> </ul> </li> <li><b>2.3.9 Format and</b> <ul> <li><b>signing of Bid</b></li> <li><b>ii</b> The Bidder shall prepare an original and the number of copies of the Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.</li> <li><b>iii</b> The Bidder shall authorize a person/ persons for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.</li> <li><b>iiii</b> The original and the copy or copies of the Bid shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid, shall be signed and stamped by the authorized person.</li> <li><b>iv</b> Any interlineations, erasures &amp; cutting, or overwriting shall be valid only i</li></ul></li></ul>  |                                    |      | (i) to sign the contract Or   |
| <ul> <li>Act, 2009 read with Rule-21 of PPR-14 are initiated and the bidder is declared blacklisted after due process of law.</li> <li>2.3.8 Period of Validity of Bids</li> <li>i) Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring Agency. A bid valid for a shorter period shall be rejected by the Procuring Agency as nonresponsive.</li> <li>ii) In exceptional circumstances, the Procuring Agency may solicit the Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The bid security provided shall also be suitably extended. A Bidder accepting the request will not be required nor permitted to modify its Bid.</li> <li>2.3.9 Format and Signing of Bid</li> <li>i) The Bidder shall prepare an original and the number of copies of the Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.</li> <li>ii) The Bidder shall authorize a person/ persons for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.</li> <li>iii) The original and the copy or copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to bind the Bidder to the contract. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid, shall be signed and stamped by the person or persons signing the bid.</li> </ul>   |                                    |      | (ii) to furnish performance guarantee   |
| <ul> <li>Validity of Bids</li> <li>bids</li> <li>the date of bid opening prescribed by the Procuring Agency. A bid valid for a shorter period shall be rejected by the Procuring Agency as nonresponsive.</li> <li>ii) In exceptional circumstances, the Procuring Agency may solicit the Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder accepting the request will not be required nor permitted to modify its Bid.</li> <li>2.3.9 Format and Signing of Bid</li> <li>i) The Bidder shall prepare an original and the number of copies of the Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.</li> <li>ii) The Bidder shall authorize a person/ persons for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.</li> <li>iii) The original and the copy or copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to bind the Bidder to the contract. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the Bid. The name and position held by each person.</li> <li>iv) Any interlineations, erasures &amp; cutting, or overwriting shall be valid only if they are signed and stamped by the person or persons signing the bid.</li> </ul>   |                                    |      | Act, 2009 read with Rule-21 of PPR-14 are initiated and the   |
| <ul> <li>Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder accepting the request will not be required nor permitted to modify its Bid.</li> <li><b>2.3.9 Format and</b> <ol> <li>The Bidder shall prepare an original and the number of copies of the Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.</li> <li>The Bidder shall authorize a person/ persons for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.</li> <li>The original and the copy or copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to bind the Bidder to the contract. This authorization shall consist of a written confirmation as specified in the BDS and shall be authorization must be typed or printed below the signature. All pages of the Bid, shall be signed and stamped by the authorized person.</li> </ol></li></ul>  | -                                  | i)   | the date of bid opening prescribed by the Procuring Agency. A bid valid<br>for a shorter period shall be rejected by the Procuring Agency as  |
| <ul> <li>Signing of Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.</li> <li>ii) The Bidder shall authorize a person/ persons for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.</li> <li>iii) The original and the copy or copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to bind the Bidder to the contract. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid, shall be signed and stamped by the authorized person.</li> <li>iv) Any interlineations, erasures &amp; cutting, or overwriting shall be valid only if they are signed and stamped by the person or persons signing the bid.</li> </ul>  |                                    | ii)  | Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder accepting the request will not be required nor permitted to modify                      |
| <ul> <li>further correspondence with Procuring Agency on behalf of bidder.<br/>Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.</li> <li>iii) The original and the copy or copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to bind the Bidder to the contract. This authorization shall consist of a written confirmation as specified in the <b>BDS</b> and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid, shall be signed and stamped by the authorized person.</li> <li>iv) Any interlineations, erasures &amp; cutting, or overwriting shall be valid only if they are signed and stamped by the person or persons signing the bid.</li> </ul>  | 2.3.9 Format and<br>Signing of Bid | i)   | indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID"<br>and "COPY OF BID," as appropriate. In the event of any discrepancy  |
| <ul> <li>indelible ink and shall be signed by the Bidder or a person duly authorized to bind the Bidder to the contract. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid, shall be signed and stamped by the authorized person.</li> <li>iv) Any interlineations, erasures &amp; cutting, or overwriting shall be valid only if they are signed and stamped by the person or persons signing the bid.</li> </ul>   |                                    | ii)  | further correspondence with Procuring Agency on behalf of bidder.<br>Authority letter must be part of bid. However, in case of any issue bidder   |
| if they are signed and stamped by the person or persons signing the bid.   |                                    | iii) | indelible ink and shall be signed by the Bidder or a person duly authorized<br>to bind the Bidder to the contract. This authorization shall consist of a<br>written confirmation as specified in the <b>BDS</b> and shall be attached to the<br>Bid. The name and position held by each person signing the authorization<br>must be typed or printed below the signature. All pages of the Bid, shall |
| 2.4. Submission of Bids  |                                    | iv)  | if they are signed and stamped by the person or persons signing the bid.  |

## 2.4. Submission of Bids

| 2.4.1 Sealing<br>and<br>Marking<br>of Bids | i) As per Rule 24, the Bidder shall seal the original and each copy of the Bid in separate<br>envelopes, duly marking the envelopes as "ORIGINAL" and "COPY." The envelopes<br>shall then be sealed in an outer envelope. The bidder should submit technical and<br>financial bids in two separate envelopes clearly marking "Technical Bid" and<br>"Financial Bid" covered under one main (Outer) envelope marking Bid Reference and<br>Package Name on top left corner of the main (outer) envelope. Address and contact No.<br>of the bidder should also be written on inner and outer envelope. |
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|   | ii)  | The inner and outer envelopes shall:   |
|---|------|--|
|   |      | (a) be addressed to the Procuring Agency at the address given in the Bid Data Sheet;<br>and  |
|   |      | <ul><li>(b) bear the title of procurement Activity indicated in the Bid Data Sheet, the Invitation to Bids (ITB) title and number indicated in the Bid Data Sheet, and a statement: "DO NOT OPEN BEFORE. (Time and date)," the outer and inner envelopes should properly be sealed so that contents of the bid are fully enclosed and cannot be known until open.</li></ul>  |
|   | iii) | The outer envelope and inner envelopes also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".   |
|   | iv)  | If the outer envelope is not sealed and marked properly, the Procuring Agency will assume no responsibility for the bid's misplacement or premature opening.   |
|   | v)   | Technical Bid / Proposal should consist of duly singed and stamped bidding documents,<br>Form of bid indicating country of origin and Brand, Model and literature / brochures<br>and all information / documents demanded in the bidding documents for technical<br>evaluation. Bid Security as demanded in advertisement / invitation to bid must be<br>placed in technical bid. Financial Bid / Proposal should consist of price / rates on the<br>prescribed format available in the bidding documents. |
| 2.4.2 Deadline<br>for Submission                    | i)   | Bids must be received by the Procuring Agency at the address specified in the bid data sheet no later than the time and date specified in the Bid Data Sheet.  |
| of Bids   | ii)  | The Procuring Agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents, in which case all rights and obligations of the Procuring Agency and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.  |
| 2.4.3 Late Bids                                     | i)   | Any bid received by the Procuring Agency after the deadline for submission of bids prescribed by the Procuring Agency will be rejected and returned unopened to the Bidder.  |
|   | ii)  | Any Bid received by the Procuring Agency after the deadline for submission of Bids shall be declared late, recorded, rejected and returned unopened to the Bidder.   |
| 2.4.4Modificatio<br>n and<br>Withdraw<br>al of Bids | i)   | The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring Agency prior to the deadline prescribed for submission of bids.   |
|   | ii)  | The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of Clause (i). A withdrawal notice may also be sent by email, but followed by a signed confirmation copy, postmarked not later than the deadline for submission of bids.  |
|   | iii) | No bid may be modified after the deadline for submission of bids.  |
|   | iv)  | No bid may be withdrawn in the interval between the deadline for submission of bids<br>and the expiration of the period of bid validity specified by the Bidder on the Bid Form.<br>Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid<br>security (along with other remedies available under PPR-14).  |
|   | v)   | Revised bid may be submitted after the withdrawal of the original bid by written notice before the deadline for submission of Bids.  |

# 2.5. Opening and Evaluation of Bids

| 2.5.1 Opening of<br>Bids by the<br>Procuring<br>Agency | i)  | the Procuring Agency will open all technical bids, in public, in the presence of bidders or<br>bidders' representatives who choose to attend, at the time, on the date, and at the place<br>specified in the <b>Bid Data Sheet</b> . The bidders or bidders' representatives who are present<br>shall sign an attendance sheet evidencing their presence. |
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|  | ii) | First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No   |

|                          | bid withdrawal shall be permitted unless the corresponding Withdrawal Notice contains<br>a valid authorization to request the withdrawal and is read out at bid opening.   |
|--------------------------|--|
|                          | iii) Second, outer envelopes marked "SUBSTITUTION" shall be opened. The inner<br>envelopes containing the Substitution Bid shall be exchanged for the corresponding<br>Original Bid being substituted, which is to be returned to the Bidder unopened. No<br>envelope shall be substituted unless the corresponding Substitution Notice contains a<br>valid authorization to request the substitution and is read out and recorded at bid opening.   |
|                          | iv) Next, outer envelopes marked "MODIFICATION" shall be opened. No Technical<br>Proposal and/or Financial Proposal shall be modified unless the corresponding<br>Modification Notice contains a valid authorization to request the modification and is read<br>out and recorded at the opening of the Bids. Any Modification shall be read out along<br>with the Original Bid except in case of Single Stage Two Envelope Procedure where only<br>the Technical Proposal, both Original as well as Modification, are to be opened, read out,<br>and recorded at the opening. Financial Proposal, both Original and Modification, will<br>remain unopened till the prescribed financial bid opening date.  |
|                          | <ul> <li>v) At the first stage, only technical bids / proposals will be opened and sealed financial bids will remain under the custody of procuring agency until open in the second stage. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder, pursuant to 2.4.3 (i). The presence or absence of requisite bid security will be announced. The technical proposals shall be discussed with the bidders with reference to the procuring agency's technical requirements;</li> <li>vi) those bidders willing to meet the requirements of the procuring agency shall be allowed to revise their technical proposal so per revised requirements of the procuring agency shall be allowed to withdraw their respective bids without forfeiture of their bid security;</li> </ul>   |
|                          | <ul> <li>Second stage</li> <li>vii) after agreement between the procuring agency and the bidders on the technical requirements, bidders who are willing to conform to the revised technical specifications and whose bids have not already been rejected shall submit a revised technical proposal and supplementary financial proposal, according to the technical requirement;</li> </ul>  |
|                          | <ul> <li>viii) the revised technical proposal along with the original financial proposal and supplementary financial proposal shall be opened at a date, time and venue announced in advance by the procuring agency:</li> <li>Provided that in setting the date for the submission of the revised technical proposals and supplementary price proposals a procuring agency shall allow sufficient time to the bidders to incorporate the agreed changes in the technical proposal and to prepare the required supplementary financial proposal; and</li> <li>ix) The bidders' names, bid prices, discounts, and such other details as the Procuring Agency, at its discretion, may consider appropriate, will be announced at the opening. The procuring agency shall evaluate the whole proposal in accordance with the evaluation criteria and the lowest evaluated bid shall be accepted.</li> </ul> |
|                          | x) The Procuring Agency will prepare minutes of the bid opening. Minutes of the Bid<br>Opening shall be recorded and uploaded by the procuring agency on its website or shared<br>to all bidders through e-mail.   |
| 2.5.2<br>Confidentiality | <ul> <li>i) Information relating to the examination, clarification, evaluation and comparison of Bids<br/>and recommendation of contract award shall not be disclosed to Bidders or any other<br/>persons not officially concerned with such process until the time of the announcement of<br/>the respective evaluation report in accordance with the requirements of rule 37 of PPR-<br/>14.</li> </ul>  |
|                          | <ul> <li>ii) Any effort by a Bidder to influence the Procuring Agency processing of Bids or award decisions may result in the rejection of its Bid.</li> <li>iii) Notwithstanding ITB Clause 2.2.2 from the time of Bid opening to the time of contract award, if any Bidder wishes to contact the Procuring Agency on any matter related to the</li> </ul>  |

| Bidding process, it should do so in writing or in electronic forms that provides record of   |
|--|
| the content of communication.  |
| i) During evaluation of the bids, the Procuring Agency may, at its discretion, ask the Bidder<br>for a clarification of its Bid including breakdown of prices to determine its reasonability.<br>The request for clarification and the response shall be in writing or in electronic forms,<br>and no change in the prices or substance of the bid shall be sought, offered, or permitted.<br>Any clarification submitted by a Bidder that is not in response to a request by the<br>Procuring Agency shall not be considered.   |
| ii) From the time of Bid opening to the time of Contract award if any Bidder wishes to contact the Procuring Agency on any matter related to the Bid it should do so in writing or in electronic forms that provide record of the content of communication.  |
| i) The Procuring Agency will examine the bids to determine whether they are complete,<br>whether any computational errors have been made, whether required securities have been<br>furnished, whether the documents have properly been signed, and whether the bids are<br>generally in order.   |
| ii) Arithmetical errors will be rectified on the following basis.  |
| <ul> <li>a) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited.</li> <li>b) If there is a discrepancy between words and figures, the amount in words will prevail.</li> </ul>   |
| iii) Prior to the detailed evaluation, the Procuring Agency will determine the substantial responsiveness of each bid to the bidding documents, pursuant to ITB Clause 2.5.5. For purposes of these Clauses, a substantially responsive bid is one which most closely conforms to all the terms and conditions of the bidding documents without deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning <b>Bid Security</b> (ITB Clause 2.3.8), <b>Applicable Law</b> (GCC Clause 30), <b>Taxes and Duties</b> (GCC Clause 32) & mandatory Registrations/ Renewals will be deemed to be a material deviation. The Procuring Agency's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence.  |
| iv) If a bid is not substantially responsive, it will be rejected by the Procuring Agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.  |
| v) Prior to the detailed evaluation of Bids, the Procuring Agency will determine whether each Bid:   |
| <ul><li>a) Meets the eligibility criteria defined in ITB 2.1.3 and ITB 2.1.4;</li><li>b) Has been prepared as per the format and contents defined by the Procuring Agency in the Bidding Documents;</li></ul>  |
| <ul> <li>c) Has been properly signed;</li> <li>d) La superior discussion de superior de su</li></ul> |
| <ul><li>d) Is accompanied by the required securities; and</li><li>e) Is responsive to the requirements of the Bidding Documents.</li></ul>   |
| The Procuring Agency's determination of a Bid's responsiveness will be based on the contents of the Bid itself.  |
| i) The Procuring Agency shall examine the Bid to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the Bidder without any material deviation or reservation.  |
| <ul> <li>ii) The Procuring Agency shall evaluate the technical aspects of the Bid submitted to confirm that all requirements specified in Section III-Technical Specifications, Section VII – Schedule of Requirements &amp; Evaluation Criteria as provided in BDS, have been met without material deviation or reservation.</li> </ul>   |
|  |

|   | iii) If after the examination of the terms and conditions and the technical evaluation,  |  |  |  |  |  |
|---|--|--|--|--|--|--|
|   | the Procuring Agency determines that the Bid is not responsive in accordance, it   |  |  |  |  |  |
|   | shall reject the Bid.  |  |  |  |  |  |
| 2.5.6. Correction<br>of Errors                  | i) Bids determined to be substantially responsive will be checked for any arithme errors. Errors will be corrected as follows: -   |  |  |  |  |  |
|   | <ul> <li>a) If there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the Procuring Agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;</li> <li>b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the sub-totals shall prevail and the total shall be corrected; and</li> <li>c) Where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.</li> <li>d) Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.</li> <li>ii) The amount stated in the Bid will, be adjusted by the Procuring Agency in accordance with the above procedure for the correction of errors. The concurrence of the Bidder shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, its Bid will then be rejected, and the Bid Security may be forfeited or the Bid Securing Declaration may be executed in accordance with ITB 2.3.8.</li> </ul> |  |  |  |  |  |
| 2.5.8 Post-<br>Qualification &<br>Evaluation of | <ul> <li>i) In the absence of prequalification, the Procuring Agency will determine to its satisfaction whether the Bidder is qualified to perform the contract satisfactorily as per evaluation criteria listed in BDS &amp; ITB clause 2.1.3.</li> </ul>   |  |  |  |  |  |
| Bids  | ii) The determination will take into account the Bidder's experience, Bidder's financial, technical, and production/ supplying capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 2.3.6, as well as such other information required for eligibility/ qualification expressed in BDS as the Procuring Agency deems necessary and appropriate.  |  |  |  |  |  |
|   | <ul> <li>iii) The Procuring Agency will technically evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 2.5.5, as per Technical Specifications required.</li> <li>iv) The financial evaluation of a Bid will be on the basis of form of Price Schedules/ Financial Bid Form 8.10. The bidder offering partial scope of work will be disqualified. The bidder offering complete scope of work and securing required marks or more in the technical evaluation will be declared technically qualified bidder. All quoted items of the complete package should meet the minimum required specification. In case any one item out of the complete package does not meet the minimum required specification then such a bid will be rejected. All bidders will be informed after technical evaluation either they are qualified or not.</li> <li>v) The Procuring Agency's financial evaluation of a bid will be on delivered duty paid (DDP) price inclusive of prevailing taxes and duties. A bid most closely conforming to evaluation criteria and other conditions specified in the bidding documents and having lowest evaluated cost will be selected as lowest evaluated bid.</li> </ul>  |  |  |  |  |  |
| 2.5.9 Contacting<br>the Procuring<br>Agency     | <ul> <li>No Bidder shall contact the Procuring Agency on any matter relating to its bid, from the time of the bid opening to the time evaluation report is made public i.e., 10 days before the contract is awarded. If the Bidder wishes to bring additional information or has grievance to the notice of the Procuring Agency, it should do so in writing.</li> </ul>   |  |  |  |  |  |
|   | <ul> <li>Any effort by a Bidder to influence the Procuring Agency during bid evaluation, or bid comparison may result in the rejection of the Bidder's bid.</li> </ul>   |  |  |  |  |  |

| 2.5.10. Grievance<br>Redressal | i) As per Rule-67 of PPR-14, Procuring Agency has constituted a Grievance Redressed<br>Committee (GRC) with proper powers and authorization to address the complaints.   |
|--------------------------------|--|
|                                | ii) Any Bidder feeling aggrieved can file its written complaint against the eligibility<br>parameters or any other terms and conditions prescribed in the Bidding documents found<br>contrary to provision of Rule 33, and the same shall be addressed by the Procuring<br>Agency well before the proposal submission deadline.  |
|                                | iii) Any party can file its written complaint against the eligibility parameters or any othe<br>terms and conditions prescribed in the bidding documents found contrary to provision o<br>Rule 34 and the same shall be addressed by the Procuring Agency well before the proposa<br>submission deadline.  |
|                                | iv) Any Bidder feeling aggrieved by any act of the Procuring Agency after the submission of his Bid may lodge a written complaint concerning his grievances not later than ter days after the announcement of the Final evaluation reports. In case of single stage – two envelope bidding procedure any bidder feeling aggrieved from technical evaluation may file a grievance within 5 days of announcement of the technical evaluation report. After completion of the technical evaluation process, the procuring agency shall immediately upload the technical evaluation report on the website of PPRA and Procuring Agency for obtaining/ receiving grievance petitions from the prospective bidders (if any). |
|                                | v) In case, the complaint/grievance is filed after the issuance of the final evaluation report<br>the complainant cannot raise any objection on technical evaluation of the report. Provided<br>that the complainant may raise the objection on any part of the final evaluation report in<br>case where single stage one envelop bidding procedure is adopted.  |
|                                | vi) The GRC shall investigate and decide upon the complaint within fifteen days of the receipt of the complaint. Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.  |

#### 2.6. Award of Contract

| 2.6.1. Notification<br>of Award | i)   | Prior to the expiration of the period of bid validity, the Procuring Agency<br>will notify the successful Bidder in writing by registered letter or by email<br>to be confirmed in writing by registered letter, that its bid has been<br>accepted.  |
|---------------------------------|------|--|
|                                 | ii)  | The notification of award will constitute the formation of the Contract.   |
|                                 | iii) | Upon the successful Bidder's furnishing of the Performance Guarantee pursuant to ITB Clause 2.6.2 (i), the Procuring Agency will promptly notify each unsuccessful Bidder and will discharge its Bid security, pursuant to ITB Clause 2.3.8 (v).   |
| 2.6.2 Performance<br>Guarantee  | i)   | Within seven (07) days of the receipt of notification of award, the successful Bidder shall furnish the performance guarantee in accordance with the Conditions of Contract, in the Performance Guarantee Form provided in the bidding documents, or in another form acceptable to the Procuring Agency.   |
|                                 | ii)  | Failure of the successful Bidder to comply with the requirement of ITB Clause (i) above or ITB Clause 2.6.3 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security along with other remedies available under PPR-14. After that, the Procuring Agency may decide to award the contract to the next lowest evaluated Bidder, keeping in view the Bid validity time, or call for new Bids keeping in view the concept of value for money as defined under rule-2(ae) read with Principles of Procurement as enunciated in rule-4 of PPR-14. |

|   | :>   | At the same time of the Dr. ' A c't' (1 0.1 D'11)   |  |  |  |
|---|------|---|--|--|--|
| Contract/ Issuance<br>of Purchase Orderthat its Bid has been accepted, the Procuring A<br>the Contract Form provided in the Bidding<br>all agreements between the parties. Within |      | At the same time as the Procuring Agency notifies the successful Bidder that its Bid has been accepted, the Procuring Agency will <b>send the Bidder the Contract Form provided in the Bidding documents, incorporating all agreements between the parties.</b> Within seven (07) days of issuance of notification of award, the successful Bidder shall sign, stamp and date the contract.   |  |  |  |
|   | ii)  | The procuring agency shall issue purchase order after the receipt of required performance guarantee, as per rule 55 of PPR-14.  |  |  |  |
| 2.6.4 Award<br>Criteria   | i)   | Subject to ITB Clause 2.6.2, under rule-55 of PPR-14, the Procuring Agency will award the contract to the successful Bidder whose Bid has been determined to be responsive and has been determined to be the lowest evaluated Bid, provided that the Bidder has been determined to be qualified to perform the contract satisfactorily.   |  |  |  |
| 2.6.5. Procuring<br>Agency's Right to<br>Vary Quantities at<br>Time of Award  | i)   | The Procuring Agency reserves the right at the time of contract award to increase or decrease the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions, on the analogy of rule-59 I(iv) of PPR-14 (not more than 15%).  |  |  |  |
| Agency's Right to<br>Accept or Rejector reject all bids, and to annul the biddin<br>contract award, without thereby incurring<br>bidders or any obligation to inform the          |      | As per rule 35 of PPR-14, the Procuring Agency reserves the right to accept<br>or reject all bids, and to annul the bidding process at any time prior to<br>contract award, without thereby incurring any liability to the Bidder or<br>bidders or any obligation to inform the bidders of the grounds for the<br>Procuring Agency's action.  |  |  |  |
|   | ii)  | The Bidders shall be promptly informed about the rejection of the Bids, if any.   |  |  |  |
|   | iii) | The Procuring Agency shall upon request communicate to any Bidder, the grounds for its rejection of all Bids or proposals, but shall not be required to justify those grounds.  |  |  |  |
| 2.6.7 Re-bidding  | i)   | If the Procuring Agency rejects all the Bids under rule 35, it may proceed<br>with the process of fresh Bidding but before doing that it shall assess the<br>reasons for rejection and may, if necessary, revise specifications,<br>evaluation criteria or any other condition for Bidders.   |  |  |  |
| 2.6.8 Corrupt or<br>Fraudulent<br>Practices   | i)   | <ul> <li>The Procuring Agency requires that Bidders, Suppliers, and Contractors observe the highest standard of ethics during the procurement and execution of contracts. For the purposes of this provision, the terms set forth below are defined as follows:</li> <li>(a) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official, bidder or Contractor in the procurement process or in contract execution; and</li> </ul> |  |  |  |
|   |      | influence a procurement process or the execution of a contract to the   |  |  |  |
|   |      | (c) "collusive practice" is an arrangement among bidders (prior to or<br>after bid submission) designed to establish bid prices at artificial,<br>non-competitive levels for any wrongful gains, and to deprive the<br>Procuring Agency of the benefits of free and open competition and<br>any request for, or solicitation of anything of value by any public   |  |  |  |

| official in the course of the exercise of his duty; it may include any of the following:  |
|---|
| <ul> <li>i. Coercive practice by impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;</li> <li>ii. Collusive practice by arrangement between two or more parties to the procurement process or Contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;</li> <li>iii. Offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;</li> <li>iv. Any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;</li> <li>v. Obstructive practice by harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a Contract or deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements before investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; or threatening, harassing or</li> </ul> |
| intimidating any party to prevent it from disclosing its knowledge of<br>matters relevant to the investigation or from pursuing the investigation,<br>or acts intended to materially impede the exercise of inspection and audit<br>process."   |
| ii) Blacklisting & Debarment:   |
| Blacklisted Consultants and those found involved in "Corrupt Practices" are not allowed to participate in bidding.  |
| Requirements & Procedure for Blacklisting & Debarment:  |
| <ul> <li>Asper As per S-17A of PPRA, Act, 2009:</li> <li>"17A. Blacklisting. – (1) A procuring agency may, for a specified period and in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice or any other prescribed practice.</li> </ul>  |
| <ul> <li>(2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor<br/>from participating in any public procurement process of all or some of the procuring<br/>agencies for a specified period.</li> </ul>   |
| <ul> <li>(3) Any person, aggrieved from a decision of a procuring agency, may within prescribed period prefer a representation before the Managing Director.</li> <li>(4) A procuring agency or any other person, aggrieved from a decision of the Managing Director, may within prescribed period prefer a representation before the Chairperson</li> </ul>  |
| <ul> <li>whose decision on such representation shall be final.]</li> <li>As per rule 21 of PPR-14:</li> <li>21. Blacklisting(1) A procuring agency may, for a specified period, debar a bidder or</li> </ul>  |
| Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor has:   |
| <ul><li>(a) acted in a manner detrimental to the public interest or good practices;</li><li>(b) consistently failed to perform his obligation under the Contract;</li><li>I not performed the Contract up to the mark; or</li></ul>   |
| <br><ul> <li>(d) indulged in any corrupt practice.</li> <li>(2) If a procuring agency debars a bidder or Contractor under sub-rule (1), the procuring agency:</li> </ul>  |
|   |

| (a) shall forward the decision to the Authority for publication on the website of the Authority;   |
|--|
| and  |
| (b) may request the Authority to debar the bidder or Contractor for procurement of all procuring agencies.   |
| (3) The Managing Director may debar a bidder or Contractor of any procuring agency from  |
| participating in any public procurement process of all or some of the procuring agencies   |
| for such period as the Managing Director may determine.  |
| (4) Any person aggrieved by a declaration made under rule 20 or a decision under sub-rule (1)  |
| of this rule may, within thirty days from the date of the publication of the information on  |
| the website of the Authority, file a representation before the Managing Director and the   |
| Managing Director may pass such order on the representation as he may deem fit.<br>(5) Any person or procuring agency aggrieved by an order under sub-rule (3) or (4) may, within            |
| thirty days of the order, file a representation before the Chairperson and the Chairperson   |
| may pass such order on the representation as he may deem appropriate.  |
| (6) The mechanism or process for barring a bidder or Contractor from participating in  |
| procurement process of a procuring agency, procuring agencies and a representation   |
| under this rule is specified in the Schedule appended to these rules.  |
| As per Schedule appended with PPR-14:<br>SCHEDULE  |
| see sub-rule (6) of rule 21  |
| BLACKLISTING MECHANISM OR PROCESS  |
| 1. The procuring agency may, on information received from any resource, issue show   |
| cause notice to a bidder or Contractor.  |
| 2. The show cause notice shall contain:  |
| <ul> <li>(a) precise allegation, against the bidder or Contractor;</li> <li>(b) the maximum period for which the procuring agency proposes to debar the bidder or</li> </ul>                 |
| Contractor from participating in any public procurement of the procuring agency; and   |
| I the statement, if needed, about the intention of the procuring agency to make a request to   |
| the Authority for debarring the bidder or Contractor from participating in public  |
| procurements of all the procuring agencies.  |
| 3. The procuring agency shall give minimum of seven days to the bidder or Contractor for   |
| <ul><li>submission of written reply of the show cause notice.</li><li>4. In case, the bidder or Contractor fails to submit written reply within the requisite time,</li></ul>                |
| the procuring agency may issue notice for personal hearing to the bidder or Contractor/  |
| authorize representative of the bidder or Contractor and the procuring agency shall  |
| decide the matter on the basis of available record and personal hearing, if availed.   |
| 5. In case the bidder or Contractor submits written reply of the show cause notice, the  |
| procuring agency may decide to file the matter or direct issuance of a notice to the   |
| <ul><li>bidder or Contractor for personal hearing.</li><li>6. The procuring agency shall give minimum of seven days to the bidder or Contractor for</li></ul>                                |
| appearance before the specified officer of the procuring agency for personal hearing.  |
| 7. The procuring agency shall decide the matter on the basis of the available record and   |
| personal hearing of the bidder or Contractor, if availed.  |
| 8. The procuring agency shall decide the matter within fifteen days from the date of   |
| personal hearing unless the personal hearing is adjourned to a next date and in  |
| such an eventuality, the period of personal hearing shall be reckoned from the last date of personal hearing.  |
| 9. The procuring agency shall communicate to the bidder or Contractor the order of   |
| debarring the bidder or Contractor from participating in any public procurement with a   |
| statement that the bidder or Contractor may, within thirty days, prefer a representation   |
| against the order before the Managing Director of the Authority.   |
| 10. The procuring agency shall, as soon as possible, communicate the order of blacklisting   |
| <ul><li>to the Authority with the request to upload the information on its website.</li><li>11. If the procuring agency wants the Authority to debar the bidder or Contractor from</li></ul> |
| participating in any public procurement of all procuring agencies, the procuring agency  |
| shall specify reasons for such dispensation.   |
| 12. The Authority shall immediately publish the information and decision of blacklisting on  |
| its website.   |
| 13. In case of request of a procuring agency under para 11 or representation of any  |
| aggrieved person under rule 21, the Managing Director shall issue a notice for personal hearing to the parties and call for record of proceedings of blacklisting. The parties may           |
| file written statements and documents in support of their contentions.   |
| 14. In case of representation of any aggrieved person or procuring agency under rule 21, the   |
| Chairperson shall issue a notice for personal hearing to the parties and may call for the  |
|  |

Signature of bidder with official stamp Dated:

|       |              |      | record of the proceedings. The parties may file written statements and documents in support of their contentions.   |  |
|-------|--------------|------|---|--|
|       |              | 15.  | In every order of blacklisting under rule 21, the procuring agency shall record reasons of blacklisting and also reasons for short, long or medium period of blacklisting.  |  |
|       |              | 16.  | The Authority shall upload all the decisions under rule 21, available with it, on its website. But the name of a bidder or Contractor shall immediately be removed from the list of blacklisted persons on expiry of period of blacklisting or order of the competent authority to that effect, whichever is earlier. |  |
|       |              | 17.  | An effort shall be made for electronic communication of all the notices and other documents pursuant to this mechanism or process."   |  |
|       |              | iii) | Furthermore, Bidders must keep themselves aware of the provision stated in clause 5.4 and clause 24.1 of the General Conditions of Contract.  |  |
| 2.6.9 | Verification | i)   | Procuring agency can verify any or all documents / information submitted<br>by the bidder. In case of bogus documents and wrong information the same<br>would not be considered for evaluation and the bid will be rejected.  |  |

## Section-III. Technical Specifications

**3.1. Technical Specifications** 

Note: (1) It is mandatory for Bidder to present pre-delivery demonstration/ Inspection to the Procuring Agency at bidder's cost. Operational manual and maintenance manual in English language both in pdf format and hard form are mandatory for all machinery, equipment, apparatus, instruments.
(2) Manufacturer's Authorization letter is mandatory for each equipment costing more than Rs. 20,000/-. Equipments of higher specifications will also be accepted.

#### **Power Electronics Lab**

| <b>S.</b> # | Description   | Quantity |
|-------------|---|----------|
| 1           | Thyristor Trainer   | 1        |
| _           | • Experiment on how to control the average voltage of output to the ideal DC power, and phase           |          |
|             | control of SCR characteristic, gate circuit and commutating circuit.                                    |          |
|             | <ul> <li>Input Power: AC 3-phase 380V</li> </ul>  |          |
|             | Output Load: 10W 100ohm   |          |
|             | <ul> <li>SCR Module: 1000V 10A</li> </ul>   |          |
|             | <ul> <li>Drive IC: SCR gate trigger circuit.</li> </ul>   |          |
|             | <ul> <li>Check Terminal: Measuring the input AC Wave.</li> </ul>  |          |
|             | <ul> <li>Output voltage wave.</li> </ul>  |          |
|             | Output current, voltage of each phase and current wave.   |          |
| 2           | IGBT Module Trainer   | 2        |
|             | • Experiment to acquire the higher output voltage by returning the energy accumulated at the            |          |
|             | position of L of the power source.  |          |
|             | <ul> <li>Input Power: AC Single-phase 220V</li> </ul>   |          |
|             | <ul> <li>Output load: 10W 100 ohm</li> </ul>  |          |
|             | <ul> <li>GBT: 1000V 25A</li> </ul>  |          |
|             | <ul> <li>Drive IC: IGBT Gate trigger circuit</li> </ul>   |          |
|             | <ul> <li>Check Terminal: Measures the input voltage, current wave.</li> </ul>                           |          |
|             | Output Voltage wave and output current.   |          |
| 3           | Power Electronics Device Trainers (Breadboard based)  | 5        |
|             | <ul> <li>Study of the V-I Characteristics of SCR</li> </ul>   |          |
|             | <ul> <li>Study of the V-I Characteristics of UJT</li> </ul>   |          |
|             | <ul> <li>Study of the V-I Characteristics of MOSFET</li> </ul>  |          |
|             | <ul> <li>Study of the V-I Characteristics of IGBT</li> </ul>  |          |
|             | <ul> <li>Study of the V-I Characteristics of DIAC</li> </ul>  |          |
|             | <ul> <li>Study of the V-I Characteristics of TRIAC</li> </ul>   |          |
|             | <ul> <li>Study of the V-I Characteristics of PUT</li> </ul>   |          |
|             | <ul> <li>Study of the Class B Commutation Circuit</li> </ul>  |          |
|             | <ul> <li>Study of the Class C Commutation Circuit</li> </ul>  |          |
|             | <ul> <li>Study of the Class D Commutation Circuit</li> </ul>  |          |
|             | <ul> <li>Study of the Class F Commutation Circuit</li> </ul>  |          |
|             | <ul> <li>Study of R Triggering Circuit</li> </ul>   |          |
|             | <ul> <li>Study of RC (Half Wave) Triggering Circuit</li> </ul>  |          |
|             | <ul> <li>Study of RC (Full Wave) Triggering Circuit</li> </ul>  |          |
|             | <ul> <li>Study of the SCR Triggered by UJT</li> </ul>   |          |
|             | Study of the SCR Triggered by 555 IC  |          |
|             | <ul> <li>Study of the SCR Triggered by Op-Amp 741 IC</li> </ul>   |          |
|             | <ul> <li>Study of the Ramp and Pedestal Triggering Circuit with Anti-Parallel SCR in AC Load</li> </ul> |          |
|             | <ul> <li>Study of the UJT Relaxation Oscillator</li> </ul>  |          |
|             | <ul> <li>Study of the Voltage Commutated Chopper</li> </ul>   |          |
|             | <ul> <li>Study of the Bedford Inverter</li> </ul>   |          |
|             | <ul> <li>Study of the Single Phase PWM Inverter using MOSFET and IGBT</li> </ul>                        |          |
|             | <ul> <li>Study of the Half Wave Controlled Rectifier with R and RL Load</li> </ul>                      |          |
|             | <ul> <li>Study of the Full Wave Controlled Mid-Point with R and RL Load</li> </ul>                      |          |
|             | Study of the Full Controlled Bridge Rectifier with R and RL Load  |          |
| 4           | DC Motor Drive Trainer  | 2        |
|             | <ul> <li>DC Servo Motor Modelling and Identification</li> </ul>   |          |
|             | Intelligent Servo Controller  |          |
|             | Motor: DC   |          |
|             | Optical Encoder:  |          |
|             | 1000 lines/revolution   |          |

|   | Gear Ratio: 1:4  |     |
|---|--|-----|
|   | Rotary Potentiometer   |     |
|   | Intelligent Motion Controller  |     |
|   | PID control module   |     |
|   | Digital Encoder module   |     |
|   | DC power supply module   |     |
| 5 | AC Variable Frequency Drive (DF) Trainer   | 2   |
|   | Variable frequency AC drive training system includes real-world equipment, dual fuse block,                        |     |
|   | emergency stop pushbutton with key-lock, multi-turn potentiometer for speed control, and selector                  |     |
|   | switches for general drive control, basic stop/start, ramping, and dynamic braking.                                |     |
| 6 | Oscilloscope   | 4   |
|   | Bandwidth: 150 MHz   |     |
|   | • Rise Time(at input, typical): $\leq 3.5$ ns  |     |
|   | • Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5   |     |
|   | <ul> <li>Sample rate (real time): 1 GS/s</li> </ul>  |     |
|   |  |     |
|   |  |     |
|   | Channel: 2 channels  |     |
|   | • Max Record length: 10K   |     |
|   | • Sampling rate / relay time accuracy: ±100 ppm  |     |
|   | Input coupling: DC, AC, Ground   |     |
|   | • Input impedance: 1 M $\Omega$ ±2%, in parallel with 20 pF±5 pF   |     |
|   | • Max. input voltage: 400V (DC+AC, PK - PK)  |     |
|   | • DC Gain Accuracy: ±3%  |     |
|   | • Vertical Sensitivity: 5 mV/div – 5 V/div   |     |
|   | • Trigger type: Edge, Video  |     |
|   | <ul> <li>Trigger mode: Auto, Normal, Single</li> </ul>   |     |
|   |  |     |
|   | • Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems                             |     |
|   | • Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base,                                 |     |
|   | Amplitude, Overshoot, Pre-shoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty                           |     |
|   | Cycle, -Duty Cycle, Delay $A \rightarrow B$ , Delay $A \rightarrow B$ , Cycle RMS, Cursor RMS, Screen Duty, Phase, |     |
|   | +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.                                    |     |
|   | • Waveform Math: $+, -, \times, \div, FFT$   |     |
|   | Waveform storage: 16 waveforms   |     |
|   | Communication interface: USB 2.0, USB flash disk storage   |     |
| 7 | Multiple output Power Supplies   | 10  |
| , | Regulated DC Power Supply (30V, 5A)  | - • |
|   | • CH1: 0-30V, 5A   |     |
|   | <ul> <li>CH2: 0-30V, 5A</li> </ul>   |     |
|   |  |     |
|   | • CH3: 5V, 3A  |     |
|   | • Load Regulation: 0.01% + 5mv   |     |
|   | Parallel Mode, Series Mode   |     |
|   | OVP/OCP Function   |     |
|   | • Number of Characters: 16   |     |
| 8 | Digital Multimeter   | 10  |
|   | • DC Voltage (V) $0.1 \text{mV} \sim 600 \text{V}$   |     |
|   | • AC Voltage (V) $0.1 \text{mV} \sim 600 \text{V}$   |     |
|   | • DC Current (A) $0.01\mu$ A~10A   |     |
|   |  |     |
|   | • AC Current (A) $0.01\mu$ A~10A   |     |
|   | • Resistance ( $\Omega$ ) 0.1 $\Omega$ ~60M $\Omega$   |     |
|   | • Capacitance (F) $1nF\sim60000\mu F$  |     |
|   | • Frequency: $10$ Hz $\sim 10$ MHz   |     |
|   | Maximum display: 5999  |     |
|   | NVC= Yes, True RMS, Backlight, Auto Power Off, Value Lock= Yes   |     |
| 9 | Power Analyzer   | 2   |
|   | Measurement Parameters   |     |
|   | • Current  |     |
|   | Voltage  |     |
|   | Active/Reactive/Apparent Power   |     |
|   | <ul> <li>Active/Reactive/Apparent Power</li> <li>Power Factor</li> </ul>   |     |
| 1 |  |     |
|   |  |     |
|   | <ul><li>Frequency</li><li>Phase and Neutral Line</li></ul>   |     |

|    | Wire Line and Phase Line  |          |
|----|---|----------|
|    | • 3 Phases and Single Phase   |          |
|    | 3 Phases and Single Phase   |          |
|    | Energy Measurement  |          |
|    | Input/ Output Active Energy   |          |
|    | • Input/ Output Reactive Energy   |          |
|    | • Apparent Energy   |          |
|    | • 1 Channel Pulse Output  |          |
|    | <ul> <li>1 Channel Pulse Output</li> </ul>  |          |
|    | Demand Statistics   |          |
|    | Current   |          |
|    |   |          |
|    | Active/Reactive/Apparent Power  |          |
|    | Current Value and Max.  |          |
|    | Current Value and Max.  |          |
|    | Maximum and Minimum   |          |
|    | Record the maximum, minimum and time of all measurement parameters                    |          |
|    | Restoration Rate  |          |
|    | 8 Restoration Stages; 4 Restoration Rate can be set                                   |          |
|    | Power Quality   |          |
|    | Harmonic Distortion   |          |
|    | 31 times Harmonic Analysis  |          |
|    | Current and Voltage   |          |
|    | Current and Voltage   |          |
|    | Communication Protocols & Display   |          |
|    | • MODBUS-RTU  |          |
|    | • STN LCD Display with big screen   |          |
|    | Real-Time Clock   |          |
|    | Year/Month/ Day/Hour/Minute/Second  |          |
|    | Relay Output Module   |          |
|    | 2 Channels Relay Output   |          |
|    | Programmable Alarm Setting of exceeding the limit                                     |          |
|    | Remote Control  |          |
|    | Analog Input and Output Module  |          |
|    | <ul> <li>1 Channel Analog Input Measurement for 4-20mA DC</li> </ul>                  |          |
|    | • 1 Channel Analog Input Measurement for 0-5V DC                                      |          |
|    | 2 Channels Analog Output for 4-20mA DC  |          |
| 10 | Bench Multimeter  | 8        |
|    | • DC Voltage (V) $1\mu V \sim 1000V$  |          |
|    | • AC Voltage (V) $200 \text{mV} \sim 750 \text{V}$                                    |          |
|    | • DC Current (A) $0.001\mu$ A~10A   |          |
|    | • AC Current (A) $0.001\mu$ A~10A   |          |
|    | • Resistance ( $\Omega$ ) 0.001 $\Omega$ ~20M $\Omega$                                |          |
|    | • Capacitance (F) 0.001nF~2mF   |          |
|    | Frequency: $0.001 \text{Hz} \sim 20 \text{MHz}$                                       |          |
| 11 | LCR Bridge (Bench type)   | 4        |
|    | • Frequency: 100Hz,120Hz,1kHz,10kHz   |          |
|    | • Accuracy: 0.02%   |          |
|    | • AC level Voltage range 0.1V,0.3V,1V   |          |
|    | • Main parameters: Cp,Cs,Lp,Ls,Z,R,G,Y  |          |
|    | • Maximum input voltage : Secondary parameters D,Q,X,B,Rp,Rs, 0 r, 0 d                |          |
|    | <ul> <li>Display range:</li> </ul>  |          |
|    | • $R,X, Z : 0.000010 - 99.9999M\Omega;$   |          |
|    | • $G, B,  Y : 0.00001 \mu S - 999.9998;$  |          |
|    | <ul> <li>C, B, T. 0.00001µ3 - 333.3333,</li> <li>L: 0.00001µH - 9.99999kH;</li> </ul> |          |
|    |   |          |
|    | • C: 0.0001pF - 999.999mF   |          |
|    | • D: 0.00001- 9.99999   |          |
|    | • 0: 0.00001 - 99999.9  |          |
|    | • 0d:-179.999°-179.999°   |          |
|    | • 0r:-3.14159 - 3.14159   |          |
|    | • Test end configuration: Open circuit, short circuit                                 |          |
|    | Clear function: Open circuit, short circuit   |          |
|    | • Equivalent mode: Series, parallel   | <u> </u> |
|    |   |          |

Signature of bidder with official stamp Dated:

| <ul> <li>Range mode: Hold, auto</li> <li>Trigger mode: Internal, manual, external, bus<br/>Mathematical operation: Direct reading, AABS, A%</li> <li>12 LCR Meter         <ul> <li>Inductance (H): 20uH~2000H</li> <li>Capacitance (F): 200pF~20mF</li> <li>Resistance (Ω): 20Ω~200MΩ</li> </ul> </li> </ul>  |                             |
|---|-----------------------------|
| Mathematical operation: Direct reading, AABS, A%         12       LCR Meter         • Inductance (H):       20uH~2000H         • Capacitance (F):       200pF~20mF  |                             |
| 12       LCR Meter         • Inductance (H):       20uH~2000H         • Capacitance (F):       200pF~20mF   |                             |
| • Capacitance (F): 200pF~20mF   | 4                           |
| • Capacitance (F): 200pF~20mF   |                             |
|   |                             |
|   |                             |
| • Test frequency (Hz): 100Hz/120Hz/1kHz/10kHz/100kHz  |                             |
| • Operating voltage: 0.6Vrms  |                             |
| Test parameters: L/C/R/DCR/Q/D/ $\theta$ /ESR   |                             |
| 13 Experimental Bench Stations  | 10                          |
| Table size: L=72", W=36", H=32", next shelf height=18", 3 side walls  | neight=24", 6" top open     |
| Frame size: L=69", W=33", H=31" of MS Box section 1.5" x 2.5", 18   | 3 gauge with hammer silver  |
| paint,  |                             |
| Top and shelve thickness= 2 x 32 mm win-board duly polished as requi  | rement.                     |
| Plastic shoes for each leg  |                             |
| Along with power connection of 4 sockets with one switch on both ends   | near top shelves along with |
| power cable 6 m long.   |                             |
| Bidder has to provide sample at the time of bid opening at universit  | y Campus                    |
| 15 Power Electronic Circuit Components (one set)  | 1                           |
| A complete set for following Components   |                             |
| • DIAC (DB3) Qty: 50pcs   |                             |
| • TRIAC (BT136) Qty: 50pcs  |                             |
| • TRIAC (BT138) Qty: 50pcs  |                             |
| • SCRs (2P4M or 3P4M) Qty: 50pcs  |                             |
| • UJTs (2N2646) Qty: 50pcs  |                             |
| • MOSFET (IRFZ44N) Qty: 50pcs   |                             |
| • IGBT (G4BC20FD) Qty: 50pcs  |                             |
| • PUT (2N6027) Qty: 50pcs   |                             |
| • 741-OPAMP Qty: 50pcs  |                             |
| • 555-Timer Qty: 50pcs  |                             |
| 16 Power Electronics Technology Line Commutated Converters  | 1                           |
| Modular type, capable of performing following experiments / features  |                             |
| Basic Measurement and Characteristic of SCR and TRIAC   |                             |
| Three-Phase source voltage measurement  |                             |
| Digital storage oscilloscope and differential amplifier   |                             |
| SCR characteristic and measurement  |                             |
| TRIAC characteristic and measurement  |                             |
| Single-Phase Rectifiers and AC Voltage Controller (AC to DC, AC to  | <b>TO AC</b> }              |
| Trigger pulse measurement   |                             |
| Single-Phase Half-Wave uncontrolled rectifier   |                             |
| Single-Phase Full-Wave uncontrolled rectifier   |                             |
| Single-Phase Half-Wave controlled rectifier<br>Single-Phase Full-Wave controlled rectifier  |                             |
| Single-Phase Full-Wave controlled rectifier<br>Symmetrical Single-Phase Full-Wave Semi-Controlled rectifier   |                             |
| Asymmetrical Single-Phase Full-Wave Semi-Controlled rectifier   |                             |
|   |                             |
| Single-Phase Semi-Controlled AC voltage controller  |                             |
| Single-Phase Semi-Controlled AC voltage controller<br>Single-Phase Full-Controlled AC voltage controller  |                             |
| Single-Phase Full-Controlled AC voltage controller  | 1                           |
| Single-Phase Full-Controlled AC voltage controller           17         Phase Commutated Converter  | 1                           |
| Single-Phase Full-Controlled AC voltage controller           17         Phase Commutated Converter           Modules capable of performing following experiments / features   |                             |
| Single-Phase Full-Controlled AC voltage controller           17         Phase Commutated Converter  |                             |
| Single-Phase Full-Controlled AC voltage controller           17         Phase Commutated Converter           Modules capable of performing following experiments / features           Three-Phase Rectifiers and AC Voltage Controller (AC to DC, AC to AC)   |                             |
| Single-Phase Full-Controlled AC voltage controller         17       Phase Commutated Converter         Modules capable of performing following experiments / features         Three-Phase Rectifiers and AC Voltage Controller (AC to DC, AC to AC Three-Phase Half-Wave uncontrolled rectifier   |                             |
| Single-Phase Full-Controlled AC voltage controller         17       Phase Commutated Converter         Modules capable of performing following experiments / features         Three-Phase Rectifiers and AC Voltage Controller (AC to DC, AC to AC         Three-Phase Half-Wave uncontrolled rectifier         Three-Phase Full-Wave uncontrolled rectifier  |                             |
| Single-Phase Full-Controlled AC voltage controller         17       Phase Commutated Converter         Modules capable of performing following experiments / features         Three-Phase Rectifiers and AC Voltage Controller (AC to DC, AC to AC         Three-Phase Half-Wave uncontrolled rectifier         Three-Phase Full-Wave uncontrolled rectifier         Three-Phase Half-Wave controlled rectifier         Three-Phase Half-Wave controlled rectifier  |                             |
| Single-Phase Full-Controlled AC voltage controller         17       Phase Commutated Converter         Modules capable of performing following experiments / features         Three-Phase Rectifiers and AC Voltage Controller (AC to DC, AC to AC         Three-Phase Half-Wave uncontrolled rectifier         Three-Phase Full-Wave controlled rectifier         Three-Phase Half-Wave controlled rectifier         Three-Phase Full-Wave Semi-Controlled rectifier   |                             |
| Single-Phase Full-Controlled AC voltage controller17Phase Commutated ConverterModules capable of performing following experiments / featuresThree-Phase Rectifiers and AC Voltage Controller (AC to DC, AC to ACThree-Phase Half-Wave uncontrolled rectifierThree-Phase Full-Wave uncontrolled rectifierThree-Phase Half-Wave controlled rectifierThree-Phase Full-Wave Semi-Controlled rectifierThree-Phase Full-Wave Semi-Controlled rectifierThree-Phase Full-Wave Full-Controlled rectifierThree-Phase Full-Wave Full-Controlled rectifierThree-Phase Full-Wave Semi-Controlled rectifierThree-Phase Full-Wave Semi-Controlled AC voltage controllerThree-Phase Full-Wave Full-Controlled AC voltage controller                       |                             |
| Single-Phase Full-Controlled AC voltage controller17Phase Commutated ConverterModules capable of performing following experiments / featuresThree-Phase Rectifiers and AC Voltage Controller (AC to DC, AC to ACThree-Phase Half-Wave uncontrolled rectifierThree-Phase Full-Wave uncontrolled rectifierThree-Phase Half-Wave controlled rectifierThree-Phase Full-Wave Semi-Controlled AC voltage controllerThree-Phase Full-Wave Full-Controlled AC voltage controllerDC Choppers (DC to DC) |                             |
| Single-Phase Full-Controlled AC voltage controller17Phase Commutated ConverterModules capable of performing following experiments / featuresThree-Phase Rectifiers and AC Voltage Controller (AC to DC, AC to ACThree-Phase Half-Wave uncontrolled rectifierThree-Phase Full-Wave uncontrolled rectifierThree-Phase Half-Wave controlled rectifierThree-Phase Full-Wave Semi-Controlled AC voltage controllerThree-Phase Full-Wave Full-Controlled AC voltage controllerDC Choppers (DC to DC)IGBT characteristic measurement                 |                             |
| Single-Phase Full-Controlled AC voltage controller17Phase Commutated ConverterModules capable of performing following experiments / featuresThree-Phase Rectifiers and AC Voltage Controller (AC to DC, AC to ACThree-Phase Half-Wave uncontrolled rectifierThree-Phase Full-Wave uncontrolled rectifierThree-Phase Half-Wave controlled rectifierThree-Phase Full-Wave Semi-Controlled AC voltage controllerThree-Phase Full-Wave Full-Controlled AC voltage controllerDC Choppers (DC to DC) |                             |

| Two-Quadrant DC chopper                 |
|---|
| Four-Quadrant DC chopper                |
| SCR DC chopper                          |
| Inverters (AC DC AC)                    |
| Single-Phase PWM controller             |
| Single-Phase inverter                   |
| Three-Phase PWM controller              |
| Three-Phase inverter                    |
| Applications of Power Electronics       |
| Power MOSFET characteristic measurement |
| Buck switching power supply             |
| Boost switching power supply            |
| Buck-Boost switching power supply       |
| Flyback switching power supply          |
| Electronic ballast                      |
|   |

### Section-IV: Bid Data Sheet

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB) Section II. Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

|                         | A. Introduction                     |  |  |  |
|-------------------------|-------------------------------------|--|--|--|
| BDS<br>Clause<br>Number | ITB<br>Number                       | Amendments of, and Supplements to, Clauses in the Instruction to Bidders   |  |  |
| 1.                      | 2.1.1                               | Name of Procuring Agency: <b>Punjab university of Technology Rasul</b><br>The subject of procurement is: Equipments for Power Electronics Lab<br>Period for delivery of goods: <b>100 days</b><br>Commencement date for delivery of Goods: <b>immediately on signing the contract and issuance of</b><br><b>Procurement/Supply order</b>   |  |  |
| 2.                      | 2.1.2                               | Financial year for the operations of the Procuring Agency: 2023-24<br>Name of Project: Provision of Infrastructural, Academic and Operational Facilities to the<br>Punjab University of Technology Rasul MB Din<br>Name of financing institution: Government of Punjab (Development Fund)<br>Name and identification number of the Contract: Equipments for Power Electronics Lab<br>(PUT/PMU/2023-24/15)  |  |  |
| 3.                      | 2.1.3                               | provide relevant certificates of non-debarred/ non-blacklisting, NTN, STRN, non-bankrupt, non-involvement in corrupt and fraudulent practices  |  |  |
| 4.                      | 2.1.4                               | Ineligible countries are: India and Israel   |  |  |
| 5.                      | 2.3.6 (iii)                         | Authorization by manufacturer/dealer/seller: required on Form 8.3<br>Qualification requirements. The potential bidder must also fulfill the following:<br>Technical Brochures of goods quoted, mentioning its specifications, manufacturer's Brand and<br>model etc.   |  |  |
|                         |                                     | B. Bidding Documents   |  |  |
| 6.                      | 2.2.2<br>(i)                        | The address for clarification of Bidding Documents: Procurement Officer, Punjab University of Technology Rasul. 0336-1031892, email: rasulian786@gmail.com   |  |  |
| 7.                      | 2.2.2 (iv)<br>2.2.2(v)<br>2.2.2(vi) | Date of Uploading of responses to clarifications (if any) on procuring agency website: on 21-9-23.<br>Pre-bid meeting will be held on 18-09-2023 at 11:00AM in conference room of PUT Rasul<br>Minutes of Meeting along with clarification will be uploaded on PUT Rasul website on 21-9-23.   |  |  |
| 8.                      | 2.3.9                               | The number of bidding documents to be completed and returned is in <b>one original and one copy</b> .  |  |  |
|                         | C.                                  | Bid Price, Currency, Language and Country of Origin  |  |  |
| 9                       | 2.3.1                               | Language of the bid – English and other documents brochures etc., if not available<br>in English will be provided after translation in English language by approved<br>translation agency.   |  |  |
| 10                      | 2.3.4                               | The Full and final prices shall be quoted in <b>Pak Rupees</b><br>The price quoted shall be Delivered Duty Paid.   |  |  |
| 11.                     | 2.3.4                               | The Full and final prices shall be quoted in Pak Rupees  |  |  |
| 12.                     | 2.1.4 (ii)                          | Country of origin: Origin in eligible source countries, as per policy of Govt. of Pakistan   |  |  |
|                         |                                     | D. Preparation and Submission of Bids  |  |  |
| 13.                     | 2.1.3                               | <ul> <li>Qualification Criteria/Knock down criteria.</li> <li>a) NTN registration certificate of firm. Attested copy</li> <li>b) General Sales Tax registration certificate of firm. Attested copy</li> <li>c) Active Tax Payer Status FBR</li> <li>d) Professional Tax certificate 2022 or latest. Attested copy</li> <li>e) Average Annual Turnover for last 5 years must be Rs. 50 million or More (provide last 05 years "2018,2019, 2020, 2021 &amp; 2022" Income Tax Returns)</li> <li>f) Technical Brochures of goods quoted, mentioning its specifications, manufacture's Brand and model.</li> <li>g) certificate of legally and financially autonomous &amp; operation of non-dependency to Government under commercial law (for Government-owned enterprises).</li> <li>h) Firm must be in operation from last 05 years (NTN registration 05 years old)</li> <li>i) Technical Brochures/ catalogues of goods quoted MUST be attached</li> </ul> |  |  |

Signature of bidder with official stamp Dated:

|     |            | j) An affidavit on legal stamp paper worth <b>Rs. 300</b> to the effect that                        |  |  |  |
|-----|------------|---|--|--|--|
|     |            | <ul> <li>Bidder is neither currently blacklisted or debarred from any government / semi-</li> </ul> |  |  |  |
|     |            |   |  |  |  |
|     |            | Government organization nor is any litigation pending in this regard.                               |  |  |  |
|     |            | • The documents/photocopies provided with Bid are authentic. In case of any fake/bogus              |  |  |  |
|     |            | document found at any stage, the Bidder shall be blacklisted as per Law/ Rules.                     |  |  |  |
|     |            | • The provided information is correct.  |  |  |  |
|     |            | k) Bidder is authorized for supply of goods for this tender from the manufacturer /authorized       |  |  |  |
|     |            | Partner/ distributor/ dealer/ seller as given in specifications (provide certificates form 8.3)     |  |  |  |
|     |            | 1) Registration of the Bidder with relevant forums/ organizations.                                  |  |  |  |
| 14. | 2.3.6 &    | Spare parts may be required for <u>05</u> years of operation.                                       |  |  |  |
|     | 2.3.7      | Supplier will provide certificate that he will provide spare parts demanded by the procuring agency |  |  |  |
|     |            | within 07 days for parts available in Pakistan and within 60 days for foreign spare parts.          |  |  |  |
| 15. | 2.4.2 (i)  | Bid shall be submitted to:  |  |  |  |
|     |            | Project Director, Punjab University of Technology Rasul, 13-km, Sarai Alamgir Road, Mandi           |  |  |  |
|     |            | Bahauddin.  |  |  |  |
| 16. | 2.4.2 (ii) | Deadline for Bid submission: As per Advertisement of this package and can be amended as per         |  |  |  |
|     |            | need.   |  |  |  |
| 17. | 2.5.1      | Time, date/ Month/ Year, and place for Bid opening.   |  |  |  |
|     |            | 30 minutes after closing time of bid submission in Conference Room of Punjab University of          |  |  |  |
|     |            | Technology Rasul, 13-km, Sarai Alamgir Road, Mandi Bahauddin.                                       |  |  |  |
| 18. | 2.6.2      | Amount of Performance Guarantee is: ten percent (10%) of the contract amount in shape of Bank       |  |  |  |
|     |            | Guarantee, Call Deposit in favour of Punjab University of Technology Rasul valid for warranty       |  |  |  |
|     |            | period.   |  |  |  |
| 19. | 2.3.7      | Estimated Contract Price is: Rs. 20,948,000/-   |  |  |  |
|     |            | Amount of Bid security is about 2% of estimated price= <u>Rs. 419,000/-</u>                         |  |  |  |
|     |            | Bid security in shape of Call Deposit Receipt (CDR) in favour of Punjab University of               |  |  |  |
|     |            | Technology Rasul valid for warranty period.   |  |  |  |
| 20. | 2.3.8      | Bid validity period after opening of the Bid is: 120 days   |  |  |  |
| 21. | 2.3.9      | Number of copies of the Bid to be provided are: one original & one copy                             |  |  |  |
|     | 1          | E. Opening and Evaluation of Bids   |  |  |  |
| 22. | 2.5.1      | The Bid opening shall take place at: As per advertisement, 30 minutes after closing time of bid     |  |  |  |
|     |            | submission.   |  |  |  |
|     |            |   |  |  |  |
| 23. | 2.3.5      | The currency that shall be used for Bid evaluation and comparison purposes only in Pak Rupees.      |  |  |  |
|     |            |   |  |  |  |

#### F. Bid Evaluation Criteria

| 1. Evaluation Criteria |   |      |  |  |  |
|------------------------|---|------|--|--|--|
| ITB<br>2.5.8           | <b>Criteria for bid evaluation:</b> Lowest Delivered Duty Paid (DDP) Total Price package wise offered by the qualified responsive bidder.   |      |  |  |  |
|                        | A- Mandatory Criteria<br>As per Qualification Criteria given above/ Knock down criteria   |      |  |  |  |
|                        | B- Marking Criteria   |      |  |  |  |
| Sec.#                  | Description   |      | Marks Allocation   |  |  |
| 1                      | Company Profile, Experience etc.  | (35) |  |  |  |
| i.                     | Experience in years / Market Existence<br>From the date of NTN Registration<br>(NTN Certificate must be attached)   | 10   | Less than 5 years= 0 marks<br>5 years= 6 marks<br>1 Marks per year above 5 years<br>(Maximum 10 Marks) |  |  |
| ii.                    | Value of Projects in public sector<br>Cost of Supply/ Installation having similar nature &<br>of value 10 million or above over last 05 years in<br>public sector.<br>(Purchase orders OR supply orders OR<br>completion certificates must be attached,<br>otherwise, no marks shall be awarded.) | 15   | 03 marks Per Project/ supply<br>(Maximum 15 Marks)   |  |  |

| iii. | Relevant Experience<br>Experience of Supply / Installation having similar<br>nature over last 05 years (5 supplies max.)<br>(Purchase orders OR supply orders OR<br>completion certificates must be attached,<br>otherwise, no marks shall be awarded.) | 10    | 02 marks Per Project/ supply<br>(Maximum 10 Marks)  |
|------|---|-------|---|
| 2    | Financial Position  | (30)  |   |
| i.   | Sum of Annual Sales /Annual Turnover (Last five<br>years)<br>(Signed and stamped statement along with tax<br>return last 05 years (2018, 2019, 2020, 2021 &<br>2022) must be attached, otherwise, no marks<br>shall be awarded.)                        | 15    | 30+ to 60 Million3 Marks60+ to 90 Million6 Marks90+ to 120 Million9 Marks120+ to 150 Million12 MarksAbove 150 Million15 Marks(Maximum 15 Marks)   |
| ii.  | Fixed Assets (Current)<br>(Documentary proof of tax return required)  | 05    | 1.0 to 5.0 Million2 Marks5.0 + to 10 Million4 MarksAbove 10 Million5 Marks(Maximum 05 Marks)  |
| iii. | <b>Tax Return</b><br>Active Tax Payer for Financial Year<br>2018, 2019, 2020, 2021 & 2022.  | 05    | 1 Mark per year<br>(Maximum 05 Marks)   |
| iv.  | <b>Bank Balance / Credit Limit</b><br>If bank balance / credit limit up-to <u>June, 2023</u> - is<br>equal to 10 Million or more, full marks may be<br>awarded.   | 05    | Otherwise, the marks may be awarded as:<br><u>Closing Balance or Credit Limit</u> x 05<br>10 million  |
| 3.   | Set up for Provision of After Sale Service<br>(Certificate must be attached and Address,<br>telephone and e-mail be provided)   | (05)  | Certificate provided 05 Marks<br>Certificate not provided 0 Marks<br>(Maximum 05 Marks)   |
| 4.   | HR, Infrastructure & Satisfactory Supply proof  | (15)  |   |
| i    | HR/ Staff Strength (Payroll of-June 2023)<br>Technical Staff (Diploma / Degree holder)<br>List of Staff along with qualification must be<br>attached and related final degree/ diploma/<br>transcripts.   | 10    | 1.5 Marks per 16-year degree holder max=06<br>1 mark for Diploma max=04<br>(Maximum 10 Marks)   |
| ii   | Letter of Satisfaction after sale service by the<br>client who has purchase of minimum 05 million<br>Please attach satisfaction/ appreciation letter<br>(In case of missing information, no mark may<br>be awarded.)                                    | 05    | 01 mark for each certificate<br>( <b>Maximum 05 marks</b> )   |
| 5    | <ul> <li>Company Presentation &amp; Product<br/>Demonstration= (10)</li> <li>Repair and Maintenance Facilities<br/>Demonstration (05)</li> <li>(Must provide videos for both in USB)</li> </ul>   | (15)  | To be assigned by the Technical Committee<br>(Bidder is required to give demonstration of quoted<br>products and have the capability to Repair and<br>Maintenance the products for 5 years, in soft form in<br>USB duly sealed. Evaluation committee may demand<br>physical demonstration |
|      | TOTAL MARKS   | (100) |   |

bidder will have to give the demonstration of quoted items at PUT Rasul.

Qualifying Marks 50% in each section is mandatory

Minimum 65% marks are mandatory in this stage.

### G. Award of Contract

| 2.6.5 | Percentage for quantity increase or decrease is: <u>15%</u>   |
|-------|---|
| 2.6.2 | The Performance Guarantee shall be: ten percent (10%) of the contract amount                        |
| 2.6.2 | The Performance Security (or guarantee) shall be in the form of: CDR or Bank Guarantee in favour of |
|       | Punjab University of Technology Rasul valid for warranty period.                                    |

### Section V. General Conditions of Contract

|              | Sect                  | UII  | <b>V</b> •                      | General Conditions of Contract  |
|--------------|-----------------------|------|---------------------------------|---|
| 1.           | Definitions           | 1.1  | In thi                          | s Contract, the following terms shall be interpreted as indicated:  |
|              |                       |      | (a)                             | "The Contract" means the agreement entered into between the<br>Procuring Agency and the Supplier, as recorded in the Contract<br>Form signed by the parties, including all attachments and<br>appendices thereto and all documents incorporated by reference<br>therein.  |
|              |                       |      | (b)                             | "The Contract Price" means the price payable to the Supplier under<br>the Contract for the full and proper performance of its contractual<br>obligations.   |
|              |                       |      | (c)                             | "The Goods" means all the equipment, machinery, and/or other<br>materials which the Supplier is required to supply to the Procuring<br>Agency under the Contract.   |
|              |                       |      | (d)                             | "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.   |
|              |                       |      | (e)                             | "GCC" means the General Conditions of Contract contained in this section.   |
|              |                       |      | (f)                             | "SCC" means the Special Conditions of Contract.   |
|              |                       |      | (g)                             | "The Procuring Agency" means the organization purchasing the Goods, as named in SCC.  |
|              |                       |      | (h)                             | "The Procuring Agency's country" is Islamic Republic of Pakistan.   |
|              |                       |      | (i)                             | "The Supplier" means the individual or firm supplying the Goods<br>and Services under this Contract.  |
|              |                       |      | (j)                             | "The Project Site," where applicable, means the place or places mentioned in the Form of Bid  |
|              |                       |      | (k)                             | "Day" means calendar day.   |
| 2.           | Application           | 2.1  |                                 | e General Conditions shall apply to the extent that they are not superseded ovisions of other parts of the Contract.  |
| 3.           | Country of<br>Origin  | 3.1  |                                 | boods and Services supplied under the Contract shall have their origin in the tries and territories eligible under the rules, as further elaborated in the SCC.   |
|              |                       | 3.2  | mine<br>produ<br>assen<br>subst | burposes of this Clause, "origin" means the place where the Goods were<br>d, grown, or produced, or from which the Services are supplied. Goods are<br>uced when, through manufacturing, processing, or substantial and major<br>nbly of components, a commercially recognized new product results that is<br>antially different in basic characteristics or in purpose or utility from its<br>ponents. |
|              |                       | 3.3  | The c                           | origin of Goods and Services is distinct from the nationality of the Supplier.  |
| <b>3</b> a.  | One person<br>one bid | 3.4  | one b                           | y procurement, one bidder may submit one bid of a specific package and if<br>idder submits more than one bids of the same package, the procuring agency<br>reject all such bids. However, one bidder may bid for one or more packages.  |
| <b>4.</b> St | tandards              | 4.1. |                                 | Goods supplied under this Contract shall conform to the standards ioned in the Technical Specifications, and, when no applicable standard is  |
| -            |                       |      |                                 | • • • • • • • • • • • • • • • • • • •   |

|    |  |     | mentioned, to the authoritative standards appropriate to the Goods' country of origin. Such standards shall be the latest issued by the concerned institution.  |
|----|--|-----|---|
| 5. | Use of<br>Contract<br>Documents<br>and<br>Information;<br>Inspection | 5.1 | The Supplier shall not, without the Procuring Agency's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring Agency in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance. |
|    | and Audit by<br>the30<br>Procuring                                   | 5.2 | The Supplier shall not, without the Procuring Agency's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.  |
|    | agency.  | 5.3 | Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring Agency and shall be returned (all copies) to the Procuring Agency on completion of the Supplier's performance under the Contract if so required by the Procuring Agency.  |
|    |  | 5.4 | The Supplier shall permit the Procuring Agency to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the donors, if so required by the donors.   |
| 6. | Patent Rights  | 6.1 | The Supplier shall indemnify the Procuring Agency against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring Agency's country.   |
| 7. | Performance<br>Guarantee   | 7.1 | Within seven (07) days of receipt of letter of intent/ notification of contract award, the successful Bidder shall furnish to the Procuring Agency the performance guarantee in the amount specified in SCC/ BDS & clause 2.6.2 of ITB.   |
|    |  | 7.2 | The proceeds of the performance guarantee shall be payable to the Procuring Agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.   |
|    |  | 7.3 | The performance guarantee shall be denominated in the currency of the Contract acceptable to the Procuring Agency and shall be in one of the following forms:   |
|    |  |     | <ul> <li>(a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in Pakistan, in the form provided in the Bidding documents or another form acceptable to the Procuring Agency; or</li> </ul>  |
|    |  |     | (b) a Bank Guarantee or Bank call-deposit (CDR),  |
|    |  |     | (c) In case of expiry of performance guarantee, the contractor shall<br>renew the performance guarantee valid for warranty period, if<br>required by the procuring agency   |
|    |  | 7.4 | The performance guarantee will be discharged by the Procuring Agency and<br>returned to the Supplier not later than thirty (30) days following the date of<br>completion of the Supplier's performance obligations under the Contract,<br>including any warranty obligations, unless specified otherwise in SCC.  |
| 8. | Inspections<br>and Tests   | 8.1 | The Procuring Agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring Agency. <b>SCC and the Technical Specifications</b> shall specify what inspections and tests the Procuring Agency requires and where they are to be conducted. The Procuring Agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.                  |

|       |                           | 8.2<br>8.3 | The inspections and tests may be conducted on the premises of the Supplier or<br>its subcontractor(s), at point of delivery, and/or at the Goods' final destination.<br>If conducted on the premises of the Supplier or its subcontractor(s), all<br>reasonable facilities and assistance, including access to drawings and production<br>data, shall be furnished to the inspectors at no charge to the Procuring Agency.<br>Should any inspected or tested Goods fail to conform to the Specifications, the<br>Procuring Agency may reject the Goods, and the Supplier shall either replace the<br>rejected Goods or make alterations necessary to meet specification requirements |
|-------|---------------------------|------------|--|
|       |                           | 8.4        | free of cost to the Procuring Agency.<br>The Procuring Agency post-delivery right to inspect, test and, where necessary,<br>reject the goods after the Goods' arrival in the Procuring Agency's country shall<br>in no way be limited or waived by reason of the Goods having previously been<br>inspected, tested, and passed by the Procuring Agency or its representative prior<br>to the Goods' shipment from the country of origin.   |
|       |                           | 8.5        | Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.  |
| 9.    | Packing                   | 9.1        | The Supplier shall provide such packing of the Goods as is required to prevent<br>their damage or deterioration during transit to their final destination, as indicated<br>in the Contract. The packing shall be sufficient to withstand, without limitation,<br>rough handling during transit and exposure to extreme temperatures, salt and<br>precipitation during transit, and open storage. Packing case size and weights shall<br>take into consideration, where appropriate, the remoteness of the Goods' final<br>destination and the absence of heavy handling facilities at all points in transit.   |
|       |                           | 9.2        | The packing, marking, and documentation within and outside the packages shall<br>comply strictly with such special requirements as shall be expressly provided for<br>in the Contract, including additional requirements, if any, specified in SCC, and<br>in any subsequent instructions ordered by the Procuring Agency.   |
| 10.   | Delivery and<br>Documents | 10.1       | Delivery of the Goods shall be made by the Supplier in accordance with the Form of bid. The details of delivery and/or other documents to be furnished by the Supplier are specified in SCC 5.   |
|       |                           | 10.2       | The contractor will be responsible for delivery, installation & commissioning (if any) as per procurement order in safe, sound and in operational condition at its own risk & cost as per delivery schedule mentioned in <i>"bid data sheet"</i> after issuance of procurement order. Delivery period can be extended by the Procuring Agency on the written request of the contractor, giving compelling reasons for delay in delivery.   |
|       |                           |            | For purposes of the Contract, DDP trade term used to describe the obligations<br>of the parties shall have the meanings assigned to them by the current edition of<br>Incoterms<br>. Documents to be submitted by the Supplier are specified in SCC.   |
| 11.   | Insurance                 | 11.1       | The Goods supplied under the Contract shall be delivered duty paid (DDP) under<br>which risk is transferred to the buyer after having been delivered, hence<br>insurance coverage is seller's responsibility.  |
| 12. T | ransportation             | 12.1       | The Supplier is required under the Contact to transport the Goods to a specified place of destination within the Procuring Agency's country, transport to such place of destination in the Procuring Agency's country, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.   |
| 13.   | Incidental<br>Services    |            | <ul> <li>The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:</li> <li>(a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;</li> </ul>  |

|                 | (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;  |
|-----------------|--|
|                 | (c) furnishing of a detailed operations and maintenance manual in <b>English</b> for each appropriate unit of the supplied Goods;  |
|                 | <ul> <li>(d) In case of specialized items, supplier will provide necessary training to the PUT Rasul staff / faculty free of cost on-site, in assembly, start-up, operation, maintenance, and repair of the supplied Goods. The terms and conditions for such training, may however, be mutually decided between the PUT Rasul and the successful bidders, if so required.</li> </ul>  |
|                 | <ul> <li>13.2. Prices charged by the Supplier for incidental services shall be included in the Contract Price for the Goods and shall not exceed:</li> <li>(i) the prevailing rates charged for other parties by the Supplier for similar services; and</li> <li>(ii) original price of goods.</li> </ul>  |
| 14. Spare Parts | 14.1 The Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:  |
|                 | <ul> <li>(a) such spare parts as the Procuring Agency may elect to purchase<br/>from the Supplier, provided that this election shall not relieve the<br/>Supplier of any warranty obligations under the Contract; and</li> </ul>   |
|                 | (b) in the event of termination of production of the spare parts:  |
|                 | <ul> <li>(i) advance notification to the Procuring Agency of the pending<br/>termination, in sufficient time to permit the Procuring Agency to<br/>procure needed requirements; and</li> </ul>   |
|                 | <ul> <li>(ii) following such termination, furnishing at no cost to the Procuring<br/>Agency, the blueprints, drawings, and specifications of the spare<br/>parts, if requested.</li> </ul>   |
|                 | 14.2 Lowest evaluated bidder must provide spare parts of the supplied items at market rate at any time after warranty period as per requirement of Procuring Agency.   |
| 15. Warranty    | 15.1 The Supplier warrants that the Goods supplied under the Contract are new,<br>unused, The Supplier further warrants that all Goods supplied under this Contract<br>shall have no defect, arising from design, materials, or workmanship (except<br>when the design and/or material is required by the Procuring Agency's<br>specifications) or from any act or omission of the Supplier, that may develop<br>under normal use of the supplied Goods in the conditions prevailing in the<br>country of final destination. |
|                 | 15.2 Bidders must provide <b>one-year free</b> comprehensive onsite warranty, which must include labor, parts replacement and any other related service. Warranty period will be started after completion of scope of work.  |
|                 | 15.3 The Procuring Agency shall promptly notify the Supplier in writing of any claims arising under this warranty.   |
|                 | 15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Procuring Agency.   |
|                 | 15.5 If the Supplier, having been notified, fails to rectify the defect(s) within the period specified in SCC, within a reasonable period, the Procuring Agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring   |

|     |  |       | Agency may have against the Supplier under the Contract/ relevant provision of PPA-14 including Blacklisting.  |
|-----|--|-------|--|
| 16. | Payment                                    | 16.1  | The method and conditions of payment to be made to the Supplier under this<br>Contract shall be specified in SCC.  |
|     |  | 16.2  | The Supplier's request(s) for payment shall be made to the Procuring Agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to SCC Clause 12, and upon fulfillment of other obligations stipulated in the Contract.  |
|     |  | 16.3  | The currency of payment is Pak. Rupees.  |
| 17. | Prices                                     | 17.1  | Prices charged by the Supplier for Goods delivered and Services performed<br>under the Contract shall not vary from the prices quoted by the Supplier in its<br>bid, with the exception of any price adjustments authorized in SCC or in the<br>Procuring Agency's request for bid validity extension, as the case may be.   |
| 18. | Change<br>Orders                           | 18.1  | The Procuring Agency may at any time, by a written order given to the Supplier, make changes within the general scope of the Contract in any one or more of the following:   |
|     |  |       | <ul> <li>(a) drawings, designs, or specifications, where Goods to be furnished<br/>under the Contract are to be specifically manufactured for the<br/>Procuring Agency;</li> </ul>   |
|     |  |       | (b) the method of shipment or packing;   |
|     |  |       | (c) the place of delivery; and/or  |
|     |  | 10.0  | (d) the Services to be provided by the Supplier.   |
|     |  | 18.2. | If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Procuring Agency's change order. But, in no case, the overall impact of the change should exceed 15% of the contract cost and no provisions of PPR-14 should be violated. |
| 19. | Contract<br>Amendments                     | 19.1  | No variation in or modification of the terms of the Contract shall be made except<br>by written amendment signed by the parties. No variation in finalized brands/<br>makes/models shall be allowed except in special conditions where the<br>manufacturer has stopped producing or suspended that model or the latest model<br>of similar series or version has been launched by the manufacturer or non-<br>availability due to international mergers of the manufacturers or similar<br>unavoidable constraints.  |
| 20. | Assignment                                 | 20.1  | The Supplier shall not assign, in whole or in part, its obligations to perform under<br>this Contract, except with the Procuring Agency's prior written consent.   |
| 21. | Sub-contracts                              | 21.1  | If supplier awarded sub-contracts, such award shall not relieve the Supplier from<br>any liability or obligation under the Contract.   |
|     |  | 21.2. | Subcontracts must comply with the provisions of GCC Clause 20.   |
| 22. | Delays in the<br>Supplier's<br>Performance | 22.1  | Delivery of the Goods and performance of services shall be made by the Supplier<br>in accordance with the time schedule prescribed by the Procuring Agency in the<br>Schedule of Requirements.   |
|     |  | 22.2  | If at any time during performance of the Contract, the Supplier or its subcontractor(s) encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Procuring Agency in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Procuring Agency   |

|     |                            | shall evaluate the situation and may at its discretion extend the Supplier's time  |
|-----|----------------------------|--|
|     |                            | for performance, with or without liquidated damages, in which case the extension<br>shall be ratified by the parties by amendment of Contract.   |
|     |                            | 22.3 Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.  |
| 23. | Liquidated<br>Damages      | 23.1 Subject to the Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to GCC Clause 24 along with other remedies available under PPR-14.  |
| 24. | Termination<br>for Default | 24.1 The Procuring Agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:   |
|     |                            | <ul> <li>(a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract / bidding documents, or within any extension thereof granted by the Procuring Agency pursuant to GCC Clause 22; or</li> </ul>   |
|     |                            | (b) if the Supplier fails to perform any other obligation(s) under the<br>Contract.  |
|     |                            | <ul><li>(c) if the Supplier, in the judgment of the Procuring Agency has engaged in<br/>corrupt or fraudulent practices in competing for or in executing the<br/>Contract.</li></ul>   |
|     |                            | For the purpose of this clause:  |
|     |                            | <ul> <li>(d) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official, bidder or Contractor in the procurement process or in Contract execution to the detriment of the procuring agency; or misrepresentation of facts in order to influence a procurement process or the execution of a Contract, collusive practices among bidders (prior to or after bid submission) designed to establish bid prices at artificial, noncompetitive levels and to deprive the procuring agency of the benefits of free and open competition and any request for, or solicitation of anything of value by any public official in the course of the exercise of his duty; it may include any of the following:</li> </ul> |
|     |                            | i. coercive practice by impairing or harming, or threatening to impair or<br>harm, directly or indirectly, any party or the property of the party to<br>influence the actions of a party to achieve a wrongful gain or to cause<br>a wrongful loss to another party;   |
|     |                            | ii. collusive practice by arrangement between two or more parties to the procurement process or Contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;  |

|                                   | <li>iii. offering, giving, receiving or soliciting, directly or indirectly<br/>anything of value to influence the acts of another party for w<br/>gain;</li>   |   |
|-----------------------------------|--|---|
|                                   | iv. any act or omission, including a misrepresentation, that know<br>recklessly misleads, or attempts to mislead, a party to obtain<br>financial or other benefit or to avoid an obligation;   |   |
|                                   | v. obstructive practice by harming or threatening to harm,<br>indirectly, persons or their property to influence their particle<br>procurement process, or affect the execution of a C<br>deliberately destroying, falsifying, altering or concealing of<br>material to the investigation or making false statement<br>investigators in order to materially impede an investig<br>allegations of a corrupt, fraudulent, coercive or collusive p<br>threatening, harassing or intimidating any party to preve<br>disclosing its knowledge of matters relevant to the investigation<br>pursuing the investigation, or acts intended to materially in<br>exercise of inspection and audit process | pation in a<br>ontract or<br>f evidence<br>nts before<br>gation into<br>practice; or<br>nt it from<br>ion or from |
|                                   | vi The Contractor may inform the date of placement of order to<br>Principal / manufacturer, in case of items to be imported with<br>of issuance of purchase order, if required by the Procuring<br>supplier fails to place order within 15 days of the issuance of<br>order and does not provide the aforementioned information (<br>by the Procuring Agency), the contract may be cons-<br>termination or cancellation.   | hin 15 days<br>Agency. If<br>of purchase<br>(if required  |
|                                   | On the happening of any of the above event, the performance guara forfeited.   | ntee will be  |
|                                   | 1.2 In the event the Procuring Agency terminates the Contract in whole<br>pursuant to GCC Clause 24.1, the Procuring Agency may procure<br>terms and in such manner as it deems appropriate, Goods or Service<br>those undelivered, and the Supplier shall be liable to the Procuring<br>any excess costs for such similar Goods or Services. However, the Su<br>continue performance of the Contract to the extent not terminated.  | , upon such<br>es similar to<br>Agency for  |
| 25. Force<br>Majeure              | 5.1 Notwithstanding the provisions of GCC Clauses 22, 23, and 24, the Sunot be liable for forfeiture of its performance guarantee, liquidated termination for default if and to the extent that its delay in performation for the perform its obligations under the Contract is the result of Force Majeure.   | damages, or nce or other  |
|                                   | 5.2 For purposes of this clause, "Force Majeure" means wars or revolu floods, epidemics, quarantine restrictions, and freight embargoes etc  |   |
|                                   | 5.3 If a Force Majeure situation arises, the Supplier shall promptly<br>Procuring Agency in writing of such condition and the cause there<br>otherwise directed by the Procuring Agency in writing, the Su<br>continue to perform its obligations under the Contract as far as is<br>practical, and shall seek all reasonable alternative means for perfor<br>prevented by the Force Majeure event.  | of. Unless<br>pplier shall<br>reasonably  |
|                                   | 5.4 The procuring agency may extend the delivery period in case of for<br>with or without imposing penalty.  | rce majeure   |
| 26. Termination<br>for Insolvency | 5.1 The Procuring Agency may at any time terminate the Contract by gir<br>notice to the Supplier if the Supplier becomes bankrupt or otherwis<br>In this event, termination will be without compensation to the Supplier   | e insolvent.  |

|     |                                   | -   |
|-----|-----------------------------------|---|
|     |                                   | that such termination will not prejudice or affect any right of action or remedy<br>which has accrued or will accrue thereafter to the Procuring Agency.  |
| 27. | Termination<br>for<br>Convenience | <ul> <li>27.1 The Procuring Agency, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Procuring Agency's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.</li> <li>27.2 The Goods that are complete and ready for shipment within thirty (30) days after the Supplier's receipt of notice of termination shall be accepted by the Procuring Agency at the Contract terms and prices. For the remaining Goods, the Procuring Agency at the Contract terms and prices.</li> </ul> |
|     |                                   | Agency may elect:<br>(a) to have any portion completed and delivered at the Contract terms<br>and prices; and/or  |
|     |                                   | (b) to cancel the remainder and pay to the Supplier an agreed amount<br>for partially completed Goods and Services and for materials and<br>parts previously procured by the Supplier.  |
| 28. | Resolution of<br>Disputes         | 28.1 The Procuring Agency and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.  |
|     |                                   | 28.2 If, after thirty (30) days from the commencement of such informal negotiations, the Procuring Agency and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed and/or arbitration as per rule 68 of PPR-14 and in accordance with Arbitration Act-1940.   |
| 29. | Governing<br>Language             | 29.1 The Contract shall be written in the language specified in SCC. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.  |
| 30. | Applicable<br>Law                 | 30.1 The Contract shall be interpreted in accordance with the laws of Punjab (Pakistan) unless otherwise specified in SCC.  |
| 31. | Notices                           | 31.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by e-mail and confirmed in writing to the other party's address specified in SCC.  |
|     |                                   | 31.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.  |
| 32. | Taxes and<br>Duties               | 32.1 Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Procuring Agency.   |
| 33. | Provision of<br>Sample            | 33.1 The procuring agency can demand sample of any good for checking the performance and quality of the machinery / equipment. On satisfactory performance of the sample, the bidder will be responsible for delivery of the same. In case performance or quality of the sample is not satisfactory the procuring agency can reject the same and the bid will be technically dis-qualified.   |
| 34. | Repeat Order                      | 34.1 The contractor may provide Machinery & Equipment on repeat order (not exceeding 15% of the original procurement order) under the provision of Punjab Procurement Rules 2014, if asked for.   |
|     |                                   |   |

## Section VI. Special Conditions of Contract

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

| 1.    | Definitions (GCC<br>Clause 1)                | GCC 1.1 (g)The Procuring Agency is: Punjab University of Technology RasulGCC 1.1 (h)The Procuring Agency's country is: Islamic Republic of PakistanGCC 1.1 (i)The Supplier is: [Bidder to provide detail here]GCC 1.1 (j)The Project Site is: PUT Rasul, 13km Sarai Alamgir Road, Mandi<br>Bahauddin.  |
|-------|--|--|
| 2.    | Country of<br>Origin                         | GCC Clause 3 All countries except India & Israel   |
| 3.    | Performance<br>guarantee (GCC<br>Clause 7)   | 3.1 The amount of performance guarantee, as a percentage of the Contract Price, shall be 10% (Ten per cent of the contract price) in the shape of non-recourse, irrevocable and unconditional bank guarantee or any form as per GCC 7 from scheduled bank of Pakistan on the prescribed format attached with the bidding document.   |
| 4.    | Inspections and<br>Tests (GCC<br>Clause 8)   | <ul> <li>4.1 Pre-delivery / Post-delivery Inspection will be arranged at PUT Rasul. The acceptance parameters are as following: <ol> <li>Confirming to the contractual specifications of items</li> <li>Satisfactory performance of functional test of the equipment</li> <li>Proper test report will be prepared with functional compliance and physical attributes of Equipment, if conducted</li> </ol> </li> </ul>   |
| 5. Pa | acking (GCC<br>Clause 9)                     | Packing should ensure safe and sound delivery at site.   |
| 6.    | Delivery and<br>Documents (GCC<br>Clause 10) | <ul> <li>6.1 Upon delivery, the Supplier shall provide the following documents to the Procuring Agency: <ul> <li>(i) copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;</li> <li>(ii) original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;</li> <li>(iii) copies of the packing list identifying contents of each package;</li> <li>(iv) insurance certificate;</li> <li>(v) Manufacturer's or Supplier's warranty certificate;</li> <li>(vi) Where applicable (Pre shipment/ port/ Procuring Agency Delivery site, inspection certificate), issued by the Procuring Agency nominated inspection agency, and the Supplier's factory inspection report (Inspection type depends on the nature of procurement and volume of procurement); and</li> <li>(vii) Certificate of origin.</li> <li>Note: The above documents at Sr.# (i) would be required even if the equipment has already been imported and is available with the supplier exstock.</li> </ul> </li> </ul> |
| 7.    | Insurance (GCC<br>Clause 11)                 | 7.1 The Goods supplied under the Contract shall be Delivered Duty Paid (DDP) under which risk is transferred to the Buyer after having been delivered. Hence insurance coverage is seller's responsibility. Since the Insurance is seller's responsibility, they may arrange appropriate coverage.   |
| 8.    | Incidental<br>Services (GCC<br>Clause 13)    | <ul> <li>8.1 Incidental services to be provided are:</li> <li>a. At site complete training of Procuring Agency's nominated staff free of cost regarding maintenance and operation of Goods (if required by Procuring Agency).</li> </ul>   |

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|                                    | b. At site preventive maintenance on quarterly basis by the bidder's qualified   |
|------------------------------------|--|
|                                    | staff for one year, without extra cost, starting from final acceptance of goods.   |
| 9. Spare Parts                     | GCC 14.1 Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the Goods. Other spare parts and components shall be supplied as promptly as possible, but in any case, within seven (7) days for local and within two (2) months for foreign be supplied of placing the order and opening the letter of credit.   |
| 10. Warranty (GCC<br>Clause 15)    | 10.1 In accordance with the provisions, the warranty period shall be <b>12 months</b> (parts and labor warranty etc.) from date of Final Acceptance of the Goods. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, at its discretion, either: |
|                                    | (a) Make such changes, modifications, and/or additions to the Goods or any<br>part thereof as may be necessary in order to attain the contractual<br>guarantees specified in the Contract at its own cost and expense and to<br>carry out further performance tests in accordance with SCC 4,  |
|                                    | or   |
|                                    | (b) Pay liquidated damages to the Procuring Agency with respect to the failure<br>to meet the contractual guarantees. The rate of these liquidated damages<br>shall be 0.2 % of the late delivered goods per day. The maximum amount<br>of liquidated damages for the whole of the goods or part thereof shall be<br>10% of the contract price.  |
|                                    | Or   |
|                                    | (c) Replacement of the whole unit at site including transportation, installation, testing & commissioning etc. in case of major defect at his own cost.  |
|                                    | GCC 15.4 & 15.5—the period for correction of defects in the warranty period is 7 days.   |
| 11. Sample Provision               | 11.1 GCC 33.1 "Samples of any good(s) be provided for demonstration by the supplier on his own cost on the demand of technical evaluation committee".  |
| 12. Payment (GCC<br>Clause 16)     | 12.1 GCC 16.1-The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:   |
|                                    | Payment in Pak Rupees will be made through cross cheque after delivery, installation and commissioning of the machinery/ equipment after inspection at PUT Rasul. The contractor shall provide all necessary supporting documents along with invoice for payment.  |
| 13. Taxes (GCC<br>Clause 32)       | 13.1 PUT Rasul shall deduct all applicable taxes at the prevailing rate prescribed by the Govt., from all payments submitted by the contractor. Change in the rate of tax announced by the Govt. from time to time will be applicable for the purpose of deduction of tax.   |
| 14. Prices (GCC                    | 14.1 Prices shall be: Fixed and shall not be adjusted.   |
| Clause 17)<br>15. Liquidated       | 15.1 GCC 23.1-Applicable rate: 0.2 % of late delivered goods per day   |
| Damages (GCC<br>Clause 23)         | 15.10.00 25.1 Applicable faile. 0.2 % of faile derivered goods per day15.2Maximum deduction:10 % of contract price   |
| 16. Resolution of<br>Disputes (GCC | 16.1 The dispute resolution mechanism to be applied pursuant to GCC Clause 28.2 shall be as follows:   |
| Clause 28)                         | In the case of a dispute between the Procuring Agency and the Supplier, the dispute shall be referred to conciliation mediated by a third party, adjudication or arbitration in accordance with the Pakistan Arbitration Act, 1940.  |

| 17.   | Governing       | 14.1                                       | The Governing Language shall be: English.   |
|-------|-----------------|--|---|
| • * • | Language (GCC   | 1  | The coverning Lunguage shan ee. Linghyn.  |
|       | Clause 29)      |  |   |
| 18.   | Applicable Law  | 18.1                                       | The procurement process will be governed under Punjab Procurement Rules -   |
|       | (GCC Clause 30) |  | 2014 or latest. The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan which includes the following legislation:   |
|       |                 |  | a. The Contract Act 1872.   |
|       |                 |  | b. The Arbitration Act 1940   |
| 19.   | Change of Model | 19.1                                       | In case of end of manufacturing of quoted model at the time of delivery, latest / upgraded model of same brand fulfilling all specifications of quoted model may be accepted on the recommendations of relevant technical expert (s) with the approval of Procurement Committee. However, contractor has to provide all necessary documents pertaining to end of quoted model for the satisfaction of procuring agency / Committee. |
| 20.   | Notices (GCC    | 20.1                                       | Procuring Agency's address for notice purposes:   |
|       | Clause 31)      | Office of Convener, Procurement Committee, |   |
|       |                 |  | Punjab University of Technology Rasul, 13km, Sarai Alamgir Road, Mandi<br>Bahauddin.  |
|       |                 |  | Tel: 0546-553216 Tel: 0546-553354   |
|       |                 | 20.2                                       | Supplier's address for notice purposes:   |
|       |                 | Pleas                                      | e provide:  |
|       |                 |  |   |
|       |                 |  |   |

### Section VII. Schedule of Requirements

#### 7.1 Schedule of Requirements

The delivery schedule expressed as weeks/months stipulates a delivery date which is the date at which delivery is required. Number Description

#### Quantity **Delivery schedule** (shipment)

#### In 90 days from date of signing contract

In order to determine the correct date of delivery hereafter specified, the Procuring Agency has taken into account the additional time that will be needed for international or national transit to the Project Site or to another common place.

#### **3** Power Electronics Lab

| S.# | Description   | Quantity | Delivery schedule<br>(shipment) in days |
|-----|---|----------|---|
| 1   | Thyristor Trainers                                      | 1        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | •                                       |
| 2   | IGBT Module Trainer                                     | 2        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | •                                       |
| З   | Power Electronic Device Trainers                        | 5        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | •                                       |
| 4   | DC Motor drive Trainer                                  | 2        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | •                                       |
| 5   | AC Variable Frequency Drive (VDF) Trainer               | 2        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | •                                       |
| 6   | Oscilloscopes (DSO-150 MHz)                             | 4        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | •                                       |
| 7   | Multiple output Power Supplies                          | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | •                                       |
| 8   | Digital Multi meter                                     | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          |   |
| 9   | Power Analyzer  | 2        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          |   |
| 10  | Bench Multi-meters                                      | 8        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          |   |
| 11  | LRC Bridge  | 4        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          |   |
| 12  | LRC Meters  | 4        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          |   |
| 13  | Experimental Tables                                     | 10       | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | -                                       |
| 15  | Power Electronic Circuit Components (one set)           | 1        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | -                                       |
| 16  | Power Electronics Technology Line-Commutated Converters | 1        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | -                                       |
| 17  | Phase Commutated Converter                              | 1        | 90 days                                 |
|     | Specifications as per Purchase Order/ Supply Order      |          | <u>-</u> -                              |

<sup>&</sup>lt;sup>1</sup> The Procuring Agency must specify here the date from which the delivery schedule will start. That date should be either the date of contract award, or the date of contract signature, or the date of opening of letter of credit, or the date of confirmation of the Letter of Credit, as appropriate. The Bid Form should include only a cross-reference to this Schedule.

### Section VIII. Sample Forms

#### 8.1. Bid Submission Form

То

#### Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents including Addenda Nos. \_\_\_\_\_\_ if any, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver full package (Equipments for Power Electronics Lab) in conformity with the said bidding documents for the sum of [*total bid amount in words and figures* firm and final including all taxes etc] or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the **guarantee of a bank in a sum equivalent to 10% of the Contract Price** for the due performance of the Contract, in the form prescribed by the Procuring Agency.

We agree to a Bid by this Bid for bid for a period of 120 days from the date fixed from Bid opening under clause 2.3.8 of the Instructions to Bidder, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed (if required), this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

The Composition of our bid consists on separate Technical and financial bids, detail of which is as follows: **Technical bid includes the following:** 

- a) Complete bidding document (without filling) signed and stamped by the bidder
- b) All the forms relevant to the technical bid, to be reproduced on the letter head of the bidder as indicated on each individual form.
- *c)* Original Bid security form (as per **form 8.11**) along with Original financial instrument *[Bank Guarantee / Bank call-deposit (CDR)]* valid for **30 Days**, beyond the validity of Bid.
- d) Brochures of items quoted and other documents listed in check list. Relevant to technical bid.

#### Financial bid includes the following:

- a) Original Bid form (as per **form 8.1 of** Bidding documents) on letter head of the firm, duly signed and stamped.
- b) Price schedule / financial form (as per **form 8.10**) to be reproduced on the letter head of the bidder duly signed and stamped.
- c) Copy of bid security form along with copy of financial instruments [Bank Guarantee / Bank calldeposit (CDR)] valid for **30 Days**, beyond the validity of Bid in the manner as prescribed on the bid security form **8.11**.
- d) Documents listed in check list relevant to financial bid.

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Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

| Name and address of goods provider | Amount (Rs.) |
|------------------------------------|--------------|
|                                    |              |
|                                    |              |

(If none, state none)

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this \_\_\_\_\_\_ day of \_\_\_\_\_\_ 20\_\_\_\_.

[signature]

[in the capacity of]

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_\_

#### 8.3. Manufacturer's/ Authorized Dealer's Authorization Form

[To be signed and stamped by the Bidder and to be attached with Technical Bid]

[See Clause 2.3.6 (iii) of the Instructions to Bidders.]

To:

#### Convener, Procurement Committee, Punjab University of Technology Rasul.

WHEREAS [name of the Manufacturer/ Authorized Dealer], who are established and reputable manufacturers of [name and/or description of the goods] having factories at [address of factory] do hereby authorize [name and address of Agent] to submit a Bid, and subsequently negotiate and sign the Contract with you against for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation to Bids.

[Signature for and on behalf of Manufacturer/ Authorized Dealer]

Note: This letter of authority should be on the letterhead of the Manufacturer and should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should be included by the Bidder in its Bid.

#### 8.4. Bidder Profile Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

| Sr.#                    | Particulars                      |  |
|-------------------------|----------------------------------|--|
| 1.                      | Name of the company:             |  |
| 2.                      | Registered Office:               |  |
| Address:                |                                  |  |
| Office Telephone Numbe  | er:                              |  |
| Email:                  |                                  |  |
| 3.                      | Contact Person:                  |  |
| Name:                   |                                  |  |
| Personal Telephone Num  | 1ber:                            |  |
| Email Address: Email:   |                                  |  |
| 4.                      | Details of District wise offices |  |
| Address:                |                                  |  |
| Office Telephone Numbe  | er:                              |  |
| Email:                  |                                  |  |
| Address:                |                                  |  |
| Office Telephone Number | er:                              |  |
| Email:                  |                                  |  |
| Address:                |                                  |  |
| Office Telephone Number | er://                            |  |
| Email:                  |                                  |  |
| 5.                      | Registration Details:            |  |
|                         |                                  |  |

a) Audited Financial Statement Attachment/Income Tax Returns (Last <u>05</u> years )

#### b) Details of Experience (Last <u>05</u> Years)

| (i)  | Supply of Similar nature & similar cost or above<br>(Agency/Department) | Item Name relevant to<br>package |
|------|---|----------------------------------|
|      | 1-  |                                  |
|      | 2-  |                                  |
|      | 3-  |                                  |
|      | 4-  |                                  |
|      | 5-  |                                  |
| (ii) | Value of total Projects/Tenders/Pos                                     | Amount (Rs. In Million)          |
|      | 1-  |                                  |
|      | 2-  |                                  |
|      | 3-  |                                  |
|      | 4-  |                                  |
|      | 5-  |                                  |

c) Staff Detail and last month Payroll with following detail duly signed and stamped

| S# | Name of Employee | Designation | Highest qualification | PEC Registration# |
|----|------------------|-------------|-----------------------|-------------------|
|    |                  |             |                       |                   |

- d) Total Annual Sales /Annual Turnover (last five years)
- e) Fixed Assets detail
- f) Bank balance / credit Limit
- g) detail of set up for provision of after sale service.

**h)** List of offices other than head office with Complete address, ownership / rent agreement, years of office established on the same place.

### 8.5. General Information Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

|                  | Particulars               |
|------------------|---------------------------|
| Company Name     |                           |
| Abbreviated Name |                           |
|                  |                           |
| National Tax No. | Sales Tax Registration No |
|                  |                           |
| PRA Tax No.      |                           |
| No. of Employees | Company's Date of         |
|                  | Formation                 |
|                  |                           |

\*Please attach copies of NTN, GST Registration & Professional Tax Certificate

| Registered Office | State/Province  |
|-------------------|-----------------|
| Address           |                 |
|                   |                 |
| City/Town         | Postal Code     |
|                   |                 |
| Phone             | Fax             |
|                   |                 |
| Email Address     | Website Address |
|                   |                 |

#### 8.6. Affidavit

[To be printed on **PKR 300** Stamp Paper, duly attested by oath commissioner. To be attached with Technical Bid]

#### Name: \_

(Applicant)

I, the undersigned, do hereby certify that all the statements made in the Bidding document and in the supporting documents are true, correct and valid to the best of my knowledge and belief and may be verified by employer if the Employer, at any time, deems it necessary.

The undersigned hereby authorize and request the bank, person, company or corporation to furnish any additional information requested by the Punjab University of Technology Rasul of the Punjab deemed necessary to verify this statement regarding my (our) competence and general reputation.

The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the Punjab University of Technology Rasul. The undersigned further affirms on behalf of the firm that:

- (i) The firm is neither currently blacklisted by any Department nor any litigation is pending before PPRA or any other court of law competence in this regard against any such blacklisting order.
- (ii) The documents/photocopies provided with Bid are authentic. In case, any fake/bogus document was found at any stage, the firm shall be blacklisted as per Law/ Rules.
- (iii) Affidavit for correctness of information.
- (iv) Contractor/firm is not blacklisted or subject to any pending litigation with any Government or Public Department

[Name of the Contractor/Bidder/Supplier] undertakes to treat all information provided as confidential.

Signed by an authorized Officer of the company

Title of Officer:

Name of Company: \_\_\_\_\_

Date:

#### 8.7. Performance Guarantee Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with contract documents]

To,

Convener, Purchase Committee,

Punjab University of Technology Rasul

WHEREAS [name of Supplier] (hereinafter called "the Supplier") has undertaken, in pursuance of "INVITATION TO BID FOR THE PROVISION/ INSTALLATION OF **Package No.** PUT/PMU/2023-24/15, "Equipments for Power Electronics Lab" to supply [ (hereinafter called "the Contract"). Dated \_\_\_\_\_\_\_20\_\_\_\_\_

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a bank guarantee by a schedule bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of \_\_\_\_\_\_ [amount of the guarantee in words and figures], and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_\_ [amount of guarantee] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ or \_\_\_\_\_ days [insert number of days] after the rectification of the Defects, whichever is later.

#### [NAME OF GUARANTOR]

Signature\_\_\_\_\_

| Name    |  |
|---------|--|
| Title   |  |
| Address |  |
| Seal    |  |

Date\_\_\_\_\_

#### 8.8. Technical Bid Form Form-I

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

To,

#### Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply, install and commission the following items in conformity with the below mentioned required specification against each item.

| Sr.<br>No. | Item Name with Specifications |   | Country<br>of Origin | Quoted Brand<br>with country of<br>manufacturer,<br>Make & Model |
|------------|-------------------------------|---|----------------------|--|
| 1          | 2                             | 3 | 6                    | 7  |
| 1          |                               |   |                      |  |

#### Stamp & Signature of Bidder

#### Form II BIDDER'S COMMENTARY FORM

Bidder is required to insert specifications of quoted item, elaborate variations if any and give remarks against each component of specifications of the item quoted for supply.

| Sr.<br>No. | Item Name with<br>Specifications as per Bid<br>documents | Quoted Item Name with<br>Specifications | Variations | Remarks |
|------------|--|---|------------|---------|
| 1          |  |   |            |         |
| 2          |  |   |            |         |
| 3          |  |   |            |         |

#### Stamp & Signature of Bidder \_\_\_\_\_

#### 8.9. Contract Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with contract documents]

THIS AGREEMENT made the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_ between [name of Procuring Agency] (hereinafter called "the Procuring Agency") of the one part and [name of Supplier] of (hereinafter called "the Supplier") of the other part:

WHEREAS the Procuring Agency invited bids for certain goods and ancillary services, viz., package No. PUT/PMU/2023-24/15, Equipments for Power Electronics Lab. and has accepted a bid by the Supplier for the supply of those goods and services in the sum of *[contract price in words and figures]* (hereinafter called "the Contract Price").

#### NOW THIS AGREEMENT WITNESSES AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:

- (a) the Form of Bid and the Price Schedule submitted by the Bidder;
- (b) Schedule of Requirements;
- (c) the Technical Specifications;
- (d) the General Conditions of Contract;
- (e) the Special Conditions of Contract; and
- (f) the Procuring Agency's Notification of Award.
- (g) Contract agreement
- (h) Complete Bidding Document

3. In consideration of the payments to be made by the Procuring Agency to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Procuring Agency to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract

4. The Procuring Agency hereby covenants to pay the Supplier in consideration of the provision of the goods and services, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

5. All disputes or differences between the parties in connections with or arising out of this agreement shall be settled through arbitration in accordance with the provisions of Punjab Procurement Rules 2014. The arbitration should be made through mutually agreed single arbitrator under Arbitration Act 1940.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year mentioned above.

| <b>Procuring Agency</b>                      | Supplier / Contractor  |
|--|--|
| Signature:<br>Name:<br>Designation:<br>Date: | Signature:          Name:          Designation:          Date: |
| WITNESS                                      |  |

#### WITNESS:

1.\_\_\_\_\_ 2.

#### 8.10. Financial Bid Form/Price Schedule

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Financial Bid]

To,

Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply, install and commission the following items in conformity with the below mentioned prices at

| Sr.<br>No. | Item Name with Specifications |          | Country of<br>origin,<br>brand<br>name, make<br>& model | along | Pak Rupees       |                 |                        |                 |
|------------|-------------------------------|----------|---|-------|------------------|-----------------|------------------------|-----------------|
|            |                               |          |   |       | Price<br>without | GST per<br>Unit | Unit Price<br>with GST | Taxes (In Words |
| 1          |                               | 2        |   |       | GST<br>5         | 6               | 7                      | & Figures)<br>8 |
|            |                               | <u> </u> | 3   | -+    | 3                | U               | /                      | 0               |
|            |                               |          |   |       |                  |                 |                        |                 |
|            |                               |          |   |       |                  |                 |                        |                 |
|            |                               |          |   |       |                  |                 |                        |                 |
|            |                               |          |   |       |                  |                 |                        |                 |
|            |                               |          |   |       |                  |                 |                        |                 |
|            |                               |          |   |       |                  |                 |                        |                 |
|            |                               |          |   |       |                  |                 |                        |                 |
|            |                               |          |   |       |                  |                 |                        |                 |
|            |                               |          |   |       |                  |                 |                        |                 |
|            |                               |          |   |       |                  |                 |                        |                 |
|            |                               |          |   |       |                  |                 |                        |                 |
|            | Grand Total                   |          |   |       |                  |                 |                        |                 |

#### Amount of Grand total in Words:

We understand that the Procuring Agency intends to award the contract to the lowest evaluated bidder. We will not claim any additional cost in respect of aforesaid equipment due to any price variations till the expiry of warranty period. We undertake, to complete the work / supply within the given time period in case we are declared lowest evaluated bidder.

# Note: All applicable taxes at the time of payment will be deducted. Change in the rate of tax announced by the Govt. from time to time will be applicable for the purpose of deduction of tax.

Note:

In case of difference between unit price and total price, unit price shall prevail and total price shall be "final". (*Please refer ITB clause 2.5.6*).

In case of difference between amount in "words" and amount in "figures", amount in "words" shall be considered final.

#### Stamp & Signature of Bidder \_\_\_\_\_

#### 8.11. Bid Security Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid. Required if the bid security is in shape of bank guarantee]

Whereas [name of the Bidder] (hereinafter called "the Bidder") has submitted its Bid dated [date of submission of Bid] for the supply of [name and/or description of the goods] (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that WE [name of bank] of [name of country], having our registered office at [address of bank] (hereinafter called "the Bank"), are bound unto [name of Procuring Agency] (hereinafter called "the Procuring Agency") in the sum of for which payment well and truly to be made to the said Procuring Agency, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_\_\_ day of \_\_\_\_\_\_ 20\_\_\_\_.

THE CONDITIONS of this obligation are:

- 1. If the Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Bid Form; or
- 2. If the Bidder, having been notified of the acceptance of its Bid by the Procuring Agency during the period of Bid validity:
  - (a) fails or refuses to execute the Contract Form, if required; or
  - (b) fails or refuses to furnish the Performance Guarantee, in accordance with the Instructions to Bidders;

we undertake to pay to the Procuring Agency up to the above amount upon receipt of its first written demand, without the Procuring Agency having to substantiate its demand, provided that in its demand the Procuring Agency will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including thirty (30) days after the period of Bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

[Signature of the bank]

[The Procuring Agency may alter or modify the details of this form in accordance with PPR-14 keeping in view its requirements, nature of procurement i.e. Bulk/Framework, item wise/package wise and form of contract to be adopted (i.e. DDP, CIF, C&F, FOR, FOP etc. if applicable) However, for a standard procurement/contract contents of a generalized this Form may be as provided above.]

#### 8.12. Draft Integrity Pact

(For the procurement of 10,000,000 and above)

The lowest evaluated successful bidder shall sign and stamp the below mentioned Integrity Pact for the procurement contracts exceeding Rupees 10 million. Failure to provide such integrity pact shall make the bidder non-responsive.

| Contract No                  | Dated | Contract Value: [To be filled in at the |
|------------------------------|-------|---|
| time of signing of Contract] |       |   |

#### Contract Title:

Without limiting the generality of the foregoing, [name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GOP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GOP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GOP under any law, contract or other instrument, be voidable at the option of GOP.

Notwithstanding any rights and remedies exercised by GOP in this regard, [name of Supplier] agrees to indemnify GOP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GOP in an amount equivalent to ten time the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GOP.

| Name of Buyer: | Name of Seller/Supplier: |  |  |  |
|----------------|--------------------------|--|--|--|
| Signature:     | Signature:               |  |  |  |
| [Seal]         | [Seal]                   |  |  |  |

#### Certificate

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid.]

- A. We undertake that our organization M/S\_\_\_\_\_\_ is not black listed by any Government / Semi-Government / Agency / Autonomous Bodies in any part of Pakistan.
- B. We undertake that in case our bid accepted the goods to be supplied under the contract agreement will be genuine, brand new, non-refurbished, un-altered in any way, as per required specification, imported (if any) through proper channel.
- C. We have read all terms & conditions and undertake to abide by all Terms & Conditions mentioned in this bidding document.
- D. We also hereby categorically confirm that the proposal / bid offered by us complies to particulars and specification as given in the Bidding Documents.
- E. It is certified that quoted rates against each item are as per market rate and we will refund the excess amount, in case we offered the same items at lowest rate anywhere in Pakistan.

# Section IX- Check List

[To be signed and stamped and presented on Bidder's letter head pad] The provision of this checklist is essential prerequisite along with submission of tenders (with technical

| Sr.<br># | sal).<br>Detail   | Evidence attached<br>(Yes/No) | Given at<br>page(s) # |
|----------|---|-------------------------------|-----------------------|
| 1        | Original or print of online bid fee receipt for online purchase of tender along with technical proposal.  | (103/100)                     |                       |
| 2        | 02% Bid Security of estimated cost of articles / items given by the department. The Bid security must be submitted with technical proposal.           |                               |                       |
| 3        | Active Registration with Income Tax Authorities (National Tax Number NTN) at least five years old   |                               |                       |
| 4        | Copy of active Registration with Sales Tax Authorities (STRN)   |                               |                       |
| 5        | Copy of active Registration (Professional Tax Certificate)  |                               |                       |
| 6        | Manufacturer's/Dealer's/Seller's Authorization as per <b>form 8.3</b>   |                               |                       |
| 7        | Max <b>05</b> similar nature supply having cost 10 million or above performed / executed  |                               |                       |
|          | in public sector during last 05 years (supply order or completion certificate).<br>The procuring agency reserves the right to verify from the issuer. |                               |                       |
| 8        | General Information Form (as per <b>form 8.5</b> of Bidding documents) on letter head of the firm duly signed and stamped.                            |                               |                       |
| 9        | Affidavit (as per <b>form 8.6</b> ) on non-judicial Stamp Paper minimum worth of <b>Rs.</b>   |                               |                       |
|          | <b>300</b> /- mentioning the followings   |                               |                       |
|          | (i) The documents/ photocopies provided with Bid are authentic. In case of  |                               |                       |
|          | any fake/bogus document noticed at any stage. They shall be black listed  |                               |                       |
|          | as per Rules / Laws.  |                               |                       |
|          | (ii) Affidavit for correctness of information.  |                               |                       |
|          | Contractor/firm is not blacklisted or subject to any pending litigation with any  |                               |                       |
|          | Government or Public Department.  |                               |                       |
| 10       | Performance Guarantee Form (as per form 8.7 of Bidding documents) on letter   |                               |                       |
|          | head of the firm, duly signed and stamped at the time of contract signing in case   |                               |                       |
|          | of bank guarantee otherwise not applicable.   |                               |                       |
| 11       | Technical Bid Form (as per <b>form 8.8</b> of Bidding documents) on letter head of the  |                               |                       |
|          | firm duly signed and stamped.   |                               |                       |
| 12       | Financial Bid Form (as per <b>form 8.10</b> of Bidding documents) on letter head of the   |                               |                       |
| 10       | firm, duly signed and stamped in financial bid.   |                               |                       |
| 13       | Bid Security Form (as per <b>form 8.11</b> of Bidding documents) on letter head of the  |                               |                       |
| 14       | firm, duly signed and stamped in case of bank guarantee otherwise not applicable.   |                               |                       |
| 14       | i. Work order / supply order / purchase order of previous relevant experience for turnout.  |                               |                       |
|          | ii. Company profile. Staff list along with location and address.<br>iii. Income Tax Returns/Audited Financial Statement. National tax number          |                               |                       |
|          | iii. Income Tax Returns/Audited Financial Statement, National tax number<br>Certificate, General Sale Tax Number Certificate (last 05 year).          |                               |                       |
|          | Bidders profile Form (as per <b>form 8.4</b> of Bidding documents) on letter head of the  |                               |                       |
|          | firm, duly signed and stamped.  |                               |                       |
| 15       | Bank Balance Statement for June, 2023   |                               |                       |
| 16       | Certificate by bidder for provision of after sale service for 05 years.   |                               |                       |
| 17       | Payroll of June 2023 along with degrees, diplomas of technical staff  |                               |                       |
| 18       | <b>Letter of Satisfaction</b> after sale service by the client who has purchase of  |                               |                       |
| 10       | minimum 05 million  |                               |                       |
| 19       | Presentation of company, its products and repair & maintenance facilities for   |                               |                       |
| - /      | demonstration, word format of specifications (in soft form in USB)  |                               |                       |
| 20       | <b>Technical Brochures/ catalogues</b> of goods quoted, mentioning its specifications, manufacture's Brand and model etc. in hard & in word format.   |                               |                       |
| 21       | On letter head certificate that supplier will provide spare parts demanded by the   |                               |                       |
|          | procuring agency within 07 days for parts available in Pakistan and within 60   |                               |                       |
|          | days for foreign spare parts.   |                               |                       |
| 22       | On letter head certificate that supplier is not black listed etc (as per certificate provided in bidding document)                                    |                               |                       |
| 23       | One original and one copy of Bid provided   |                               |                       |

#### Stamp & Signature of Bidder \_\_\_\_

Issued to:



# **Punjab University of Technology Rasul**

# **BIDDING DOCUMENTS** FOR **National Competitive Bidding**

# **Procurement of Equipments for Electrical Machines Lab**

| Bid Reference No:                   | PUT/PMU/2023-24/16  |
|-------------------------------------|---|
| Package No.16<br>Package Name:      | Equipments for Electrical Machines<br>Lab                                 |
| Procurement Procedure & Method      | Single Stage Two Envelope (Least Cost Method,<br>Accumulative Cost Basis) |
| Last Date & Time of Receipt of Bids | As per Advertisement  |
| Bid Opening Date & Time:            | As per Advertisement  |

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| 10         |  |    |
| 11         |  |    |
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| 13         |  |    |
| 14         | 1  |    |
| 15         |  |    |
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#### Section-I: INVITATION TO BIDS TENDER NOTICE

**Punjab University of Technology Rasul** invites sealed bids/proposals from well-reputed and financially sound firms/suppliers having sufficient relevant experience as per bid documents, registered with Income Tax and Sales Tax Departments as per PPRA rules for purchase of goods for the ADP Scheme titled "Provision of Infrastructural Academic and Operational facilities to the Punjab University of Technology Rasul M.B.Din" in lots/packages given below to be delivered and equipments installed (if any) in concerned Lab(s), at PUT Rasul on DDP (Duty Delivered Paid) basis more specifically described in Technical Specifications.

| Tender No. | Description of Packages               | Estimated<br>Cost/ Bid<br>Security (Rs.) | Mode of Procurement   | Closing Date &<br>Time and<br>opening time | Bid rates<br>Validity &<br>Delivery<br>Period |
|------------|---------------------------------------|--|-----------------------|--|---|
|            | Package/ lot No. 16                   | 38,850,000/                              | Single stage two      | 25.09.2023                                 | 120 days                                      |
| 24/16      | Package/ lot No. 16<br>Equipments for | 777,000                                  | envelope procedure on | 11:00AM                                    | 90 days                                       |
| 24/10      | Electrical Machines Lab               |  | cumulative cost basis | 11:30AM                                    |   |

Interested eligible bidders can obtain bid documents in English language containing detailed item specifications, quantity and terms & conditions from office of the Project Director, Punjab University of Technology Rasul from 09:00 a.m. to 03:00 p.m. on any working day (Monday to Friday), on submission of written application and upon payment of non-refundable tender fee Rs. **5000**/- per package which should be deposited in university account No. **3174230619** NBP GSE Rasul Branch code 0469, Account Title: "Punjab University of Technology Rasul, Fund". Bid documents can also be downloaded from websites of PPRA or from Punjab University of Technology Rasul <u>www.putrasul.edu.pk.</u> In this case, tender fee can be transferred/ deposited online per package and send scanned copy of online transfer /deposit receipt by email before closing date for issuance of bid registered number. In case of any query, guidance can be sought from Imtiaz Ahmad Awan, Procurement Officer of the University. (Tel: +92 (336) 1031892, Email: rasulian786@gmail.com).

The sealed bids/proposals marked with Tender for relevant Package No. & name supported with Financial Proposal along with a bid security as given against each lot above in shape of **CDR**/ **Bank Guarantee** in favor of the **Punjab University of Technology Rasul** should reach in the Office of Project Director, **Punjab University of Technology Rasul** latest by **closing date & time given above.** Bids will be opened on the same day after **30 minutes of closing time** by the Procurement Committee, in the presence of the bidders or their authorized representatives who wish to attend the meeting.

PUT Rasul will not be responsible for any cost or expense incurred by Bidders in connection with the preparation or delivery of Bids. In case the last date of submission of bids falls on closed official days/ holidays, the date for submission and opening of the bids shall be the next working day (Monday to Friday). University NTN is 9022261-4

- Bid documents will be issued from the date of publication of Tender Notice.
- Last date of issuance of bid documents is September 23,2023.

Note: Procurement shall be governed by Punjab Procurement Rules, 2014.

Project Director (PMU), Punjab University of Technology Rasul

Section II Instructions to Bidders (ITB)

# General Instructions **2.1. Introduction**

| 2.1.1 Scope of<br>Bid                       | <ul> <li>i) The Procuring Agency (PA), as indicated in the Bid Data Sheet (BDS) invites Bids for the provision<br/>of Goods as specified in the Section-IV Bid Data Sheet (BDS) and Section III - Technical<br/>Specifications &amp; Section VII- Schedule of Requirements. Bidders must submit bids of all items of<br/>the lot. The successful bidder will be responsible for delivery, installation &amp; commissioning (if any)<br/>of all items at consignee's end in new, safe, sound and in operational condition within the specified<br/>period and timelines as stated in the Bid Data sheet (BDS).</li> </ul>   |
|---|--|
| 2.1.2 Source of<br>Funds                    | <ul> <li>PUT Rasul has received budget from the Government of Punjab. The Procuring Agency intends to<br/>apply the provided funds/ a portion of this budget to make eligible payments under the contract for<br/>which the Invitation to bids has been issued.</li> </ul>   |
| 2.1.3 Eligible<br>Bidders                   | <ul> <li>i) This Invitation for Bids is open to all suppliers, except as provided hereinafter.</li> <li>ii) Government-owned enterprises may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government (provide certificate).</li> <li>iii) Bidders shall not be under a declaration of blacklisting by any Government department or Punjab Procurement Regulatory Authority (PPRA) (provide certificate).</li> <li>iv) The Bidders must have NTN and STRN and active tax payer status</li> <li>v) A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be Non-Responsive.</li> <li>vi) A Bidder may be ineligible if –</li> </ul>   |
|   | <ul> <li>a) The Bidder is declared bankrupt or, in the case of company or firm, insolvent;</li> <li>b) Payments in favour of the Bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting, in accordance with the national laws, in the total or partial loss of the right to administer and dispose of its property;</li> <li>c) Legal proceedings are established against such Bidder involving an order suspending payments and which may result, in accordance with the national laws, in a declaration of bankruptcy or in any other situation entailing the total or partial loss of the right to administer and dispose of the property;</li> </ul>   |
|   | <ul> <li>d) The Bidder is convicted, by a final judgment, of any offence involving professional conduct;</li> <li>e) The Bidder is debarred and blacklisted due to involvement in corrupt and fraudulent practices in accordance with the provision of section 17A of PPRA Act, 2009 and Rule-21, read with Schedule appended with, Punjab Procurement Rules, 2014.</li> <li>f) The Bidder is debarred and blacklisted in general (i.e., to the extent of all public procurement) due to consistent performance failure in accordance with the section 17A of PPRA Act, 2009 and Rule-21, read with Schedule appended with, Punjab Procurement Rules, 2014.</li> </ul>   |
| 2.1.4. Eligible<br>Goods<br>and<br>Services | <ul> <li>g) The firm, supplier and contractor is blacklisted/ debarred by any international organization.</li> <li>i) All goods and related services to be supplied under the contract shall have their origin in eligible source countries, as per policy of Govt. of Pakistan, and all expenditures made under the contract will be limited to such goods and services.</li> <li>ii) For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.</li> <li>iii) The origin of goods and services is distinct from the nationality of the Bidder.</li> </ul> |
| 2.1.5 Cost of<br>Bidding                    | <ul> <li>The Bidder shall bear all costs associated with the preparation and submission of its bid, and the<br/>Procuring Agency named in the Bid Data Sheet, hereinafter referred to as "the Procuring Agency,"<br/>will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the<br/>bidding process.</li> </ul>   |
| 2.1.6 One<br>person<br>one Bid              | <ul> <li>As per Rule 36A of Punjab Procurement Rules 2014, a Bidder shall submit only one Bid in the same<br/>bidding process, either individually as a Bidder or as a member in a joint venture or any similar<br/>arrangement.</li> </ul>  |

| ii)  | No Bidder can be a sub-contractor while submitting a Bid individually or as a member of a joint venture in the same Bidding process. |
|------|--|
| iii) | A Bidder, if acting in the capacity of sub-contractor in any Bid, shall not submit bid for the same.                                 |

## **2.2.** The Bidding Documents

|       | 2. The Didding Documents                 |  |  |  |  |
|-------|--|--|--|--|--|
|       | Content of<br>Bidding<br>Documents       | <ul> <li>i) The goods required, bidding procedures, and contract terms are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents include: <ul> <li>(a) Instructions to Bidders (ITB)</li> <li>(b) Technical Specifications</li> <li>(c) Bid Data Sheet</li> <li>(d) General Conditions of Contract (GCC)</li> <li>(e) Special Conditions of Contract (SCC)</li> <li>(f) Schedule of Requirements</li> <li>(g) Bid Submission Form</li> <li>(h) Manufacturer's Authorization Form (if applicable)</li> <li>(i) Bidder Profile Form</li> <li>(j) General Information Form</li> <li>(k) Affidavit</li> <li>(l) Bid Security Form (if bid security as bank guarantee)</li> <li>(m) Technical Bid Form</li> <li>(n) Contract Form (at the time of contract signing)</li> <li>(o) Financial Bid Form/ Price Schedule</li> <li>(p) Performance Guarantee Form/ CDR (at the time of contract signing)</li> <li>(q) Draft Integrity Pact (if applicable)</li> <li>(r) Certificate</li> <li>(s) Bidders Commentary Form</li> <li>(t) Check list</li> </ul> </li> <li>ii) The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its bid.</li> </ul> |  |  |  |
|       |  | <ul> <li>In case of discrepancies between the Invitation to Bid and the Bidding Documents listed in ITB 2.2.1 (i) above, the said Bidding Documents, not in conflict with any provision of PPR-14, will take precedence.</li> <li>iv) The Procuring Agency is not responsible for the completeness of the Bidding Documents and their addenda, if they were not obtained directly from the Procuring Agency or from its website or website of PPRA. Re-confirming from the Procuring Agency that all pages/ contents have been properly and clearly received is the prime</li> </ul>   |  |  |  |
|       |  | responsibility of the Bidder.  |  |  |  |
| 2.2.2 | Clarification<br>of Bidding<br>Documents | <ul> <li>i) A prospective Bidder requiring any clarification of the bidding documents may notify<br/>the Procuring Agency in writing or by email at the Procuring Agency's address<br/>indicated in Bid Data Sheet. The Procuring Agency will respond in writing to any<br/>request for clarification of the bidding documents which it receives no later than three<br/>(7) days prior to the deadline for the submission of bids prescribed in the Bid Data<br/>Sheet. Written copies of the Procuring Agency's response (including an explanation<br/>of the query but without identifying the source of inquiry) will be sent to all prospective<br/>bidders that have received the bidding documents.</li> </ul>  |  |  |  |
|       |  | <ul> <li>ii) A prospective Bidder requiring any clarification of the Bidding Documents may notify the Procuring Agency in writing or in electronic form that provides record of the content of communication at the Procuring Agency's address indicated in the <b>BDS</b>.</li> <li>iii) The Procuring Agency will within three (3) working days after receiving the request for clarification, respond in writing or in electronic form to any request for clarification</li> </ul>  |  |  |  |
|       |  | provided that such request is received not later than seven (7) days prior to the deadline for the submission of Bids. As prescribed in <b>ITB 2.2.2 (i)</b> , <b>above</b> .  |  |  |  |

|  | iv)               | Copies of the Procuring Agency's response will be uploaded on the website of  |
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|  |                   | procuring agency on given date and forwarded to identified Prospective Bidders<br>through an expeditious identified source of communication, e.g.: e-mail etc., including<br>a description of the inquiry, but without identifying its source.  |
|  | v)                | The Bidder's designated representative is invited at the Bidder's cost to attend<br>a pre-Bid meeting at the place, date and time mentioned <b>in the BDS</b> . During<br>this pre-Bid meeting, prospective Bidders may request clarification of the<br>schedule of requirement, the Evaluation Criteria or any other aspects of the<br>Bidding Documents.  |
|  | vi)               | Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be transmitted promptly to all prospective Bidders who have obtained the Bidding Documents and by uploading same on the website of the procuring agency. Any modification to the Bidding Documents that may become necessary as a result of the pre-Bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum pursuant to ITB 2.2.3. Non-attendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.           |
| 2.2.3 Amendment<br>of Bidding<br>Documents | i)<br>ii)<br>iii) | At any time prior to the deadline for submission of bids, but not later than three (3)<br>days before the closing date of the submission of Bid, the Procuring Agency, for any<br>reason, whether at its own initiative or in response to a clarification requested by a<br>prospective Bidder, may modify the bidding documents by amendment.<br>All prospective bidders that have received the bidding documents will be notified of<br>the amendment in writing or by email, and will be binding on them.<br>In order to allow prospective bidders reasonable time in which to take an addendum<br>into account in preparing their bids, the Procuring Agency, at its discretion, may extend<br>the deadline for the submission of bids. |
| 2.3. Preparation                           | of                | Bids  |

| 2.3.1 Language of<br>Bid  | i)        | The bid prepared by the Bidder, as well as all correspondence and documents relating<br>to the bid exchanged by the Bidder and the Procuring Agency shall be written in the<br>language specified in the <b>Bid Data Sheet.</b> Supporting documents and printed literature<br>furnished by the Bidder should be in same language.  |
|---|-----------|---|
| 2.3.2 Bid Form  | i)        | The Bidder shall complete the Bid Form and Price Schedule (Financial Bid) furnished<br>in the bidding documents, indicating the goods to be supplied, a brief description of<br>goods, their country of origin, brand, model, quantity and prices.  |
| 2.3.3 Bid Prices  | i)<br>ii) | Item wise total price in figures and grand total price, in words and figures should be<br>quoted at the respective columns of the Bid Form. The total quoted price must be<br>inclusive of all applicable taxes and duties as per prevailing Govt. rules, transportation<br>/ delivery, installation and commissioning charges etc. in Pak Rupees.<br>Prices indicated on the bid form shall be <b>delivered duty paid (DDP) prices</b> .                             |
|   |           |   |
| 2.3.4 Bid Currencies  | i)        | Full and final prices shall be quoted in Pak Rupees   |
| 2.3.4 Bid Currencies<br>2.3.5 Documents<br>Establishing<br>Bidder's<br>Eligibility and<br>Qualification | i)<br>ii) | Full and final prices shall be quoted in <b>Pak Rupees</b><br>The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.<br>The documentary evidence of the Bidder's eligibility to Bid shall establish to the Procuring Agency's satisfaction that the Bidder, at the time of submission of its Bid, is eligible as defined under ITB Clause 2.1.3. |

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|  | (a) that, in the case of a Bidder offering to supply goods under the contract which the<br>Bidder did not manufacture or otherwise produce, the Bidder has been duly<br>authorized by the goods' Manufacturer [Manufacturer's/ Authorized Dealer's<br>Authorization Form No. 8.3] or producer/Authorized dealer to supply the same in<br>Pakistan;   |
|  | (b) that the Bidder has the financial, technical, and personnel capability necessary to perform the contract;  |
|  | (c) that, in the case of a Bidder not doing business within Pakistan, the Bidder is or will<br>be (if awarded the contract) represented by an Agent in that country equipped, and<br>able to carry out the Supplier's maintenance, repair, and spare parts stocking<br>obligations prescribed in the Conditions of Contract and/or Technical Specifications;<br>and  |
|  | (d) that the Bidder meets the qualification criteria listed in the Bid Data Sheet.   |
| 2.3.6 Documents<br>Establishing<br>Goods'                | i) Pursuant to ITB Clause 2.1.4, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services which the Bidder proposes to supply under the contract.  |
| Eligibility and<br>Conformity to<br>Bidding<br>Documents | ii) The documentary evidence of the eligibility of the goods and services shall consist<br>of a statement in the Price Schedule/Financial Bid Form of the country of origin of<br>the goods and services offered which shall be confirmed by a <b>Certificate of Origin</b><br>issued at the time of shipment.   |
|  | iii) The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:   |
|  | <ul> <li>(a) a detailed description of the essential technical and performance characteristics of the goods;</li> <li>(b) a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period to be specified in the Bid Data Sheet, following commencement of the use of the goods by the Procuring Agency; and</li> <li>(c) an item-by-item commentary on the Procuring Agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.</li> <li>iv) For purposes of the commentary to be furnished, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring Agency in its Technical Specifications, are intended to be descriptive only and not restrictive.</li> <li>(a) If some of the specifications are not available in the literature / brochure provided by the bidder but the same have been mentioned / reported / committed in the Commentary Form by the bidder, the bidder will give an undertaking or in response of Procuring Agency's clarifications, that the machinery &amp; equipment to be supplied will conform to the required / bid specifications. The procuring agency reserve the rights to accept or reject the clarification.</li> <li>(b) The commentary form facilitates the bidder to elaborate their bid offer in terms of required accessories / specifications which are not available in the technical literature / brochure of the goods. In case the brochure provided by the bidder meets all the required specifications than commentary form has no significant impact.</li> <li>(c) In case of contradiction between the brochure and commentary form, the information available in the brochure will prevail.</li> <li>v) Where a sample(s) is required by a procuring agency,</li></ul> |

|                    |       | (d) Evaluated to determine compliance with all characteristics listed in the <b>BDS</b> .   |
|--------------------|-------|---|
|                    | vi)   | The Procuring Agency may retain the sample(s) of the successful Bidder till the successful delivery of the goods. A Procuring Agency may reject the Bid if the sample(s)-   |
|                    |       | <ul> <li>(a) do(es) not conform to all characteristics prescribed in the bidding documents;<br/>and</li> </ul>  |
|                    |       | <ul><li>(b) is/are not submitted within the specified time clearly mentioned in the Bid Data<br/>Sheet.</li></ul>   |
|                    | vii)  | Where it is not possible to avoid using a propriety article as a sample, a Bidder shall make it clear that the propriety article is displayed only as an example of the type or quality of the goods being Bided for, and that competition shall not thereby be limited to the extent of that article only.                                     |
|                    | viii) | Samples made up from materials supplied by a Procuring Agency shall not be<br>returned to a Bidder nor shall a Procuring Agency be liable for the cost of making<br>them.   |
|                    | ix)   | All samples produced from materials belonging to an unsuccessful Bidder may be kept by the Procuring Agency till thirty (30) days from the date of award of contract or exhaust of all the grievance forums (including those pending at Authority's Level or in some Court of Law).   |
|                    | x)    | The Bidder shall also furnish a list giving full particulars, including available sources and current prices of goods, spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period <b>specified in the BDS</b> following commencement of the use of the goods by the Procuring Agency. |
|                    | xi)   | The required documents and other accompanying documents must be in English. In case any other language than English is used the pertinent translation attested by the embassy in country of manufacturer into English shall be attached to the original version.  |
| 2.3.7 Bid Security | i)    | The Bidder shall furnish, as part of its bid, a bid security in the amount specified in the Bid Data Sheet.   |
|                    | ii)   | The bid security is required to protect the Procuring Agency against the risk of Bidder's conduct which would warrant the security's forfeiture Pursuant to ITB Clause 2.3.8.   |
|                    | iii)  | The bid security shall be in Pak. Rupees and shall be in one of the following forms:  |
|                    |       | (a) Bank guarantee or Call Deposit Receipt (CDR), valid for thirty (30) days beyond the validity of bid.  |
|                    | iv)   | Any bid without bid security or less than the amount as demanded in invitation to<br>bid will be rejected by the Procuring Agency as nonresponsive  |
|                    | v)    | Unsuccessful bidders' bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Procuring Agency as rule 38(2)(a)(vii) of PPR14.   |
|                    | vi)   | The successful Bidder's bid security will be discharged upon the Bidder signing the contract, and furnishing the performance guarantee.   |
|                    | vii)  | The bid security may be forfeited:  |
|                    |       | <ul><li>(a) if a Bidder withdraws its bid during the period of bid validity specified by the<br/>Bidder on the Bid Form; or</li></ul>   |
|                    |       | (b) in the case of a successful Bidder, if the Bidder fails:  |
|                    |       | (i) to sign the contract Or   |
|                    |       | (ii) to furnish performance guarantee   |
|                    |       | <ul> <li>(iii) If the blacklisting proceedings under Section-17A of PPRA Act, 2009<br/>read with Rule-21 of PPR-14 are initiated and the bidder is declared<br/>blacklisted after due process of law.</li> </ul>  |

| 2.3.8 Period of<br>Validity of<br>Bids | i)   | Bids shall remain valid for the period specified in the Bid Data Sheet after the date<br>of bid opening prescribed by the Procuring Agency. A bid valid for a shorter period<br>shall be rejected by the Procuring Agency as nonresponsive.   |
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|  | ii)  | In exceptional circumstances, the Procuring Agency may solicit the Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder accepting the request will not be required nor permitted to modify its Bid.  |
| 2.3.9 Format and<br>Signing of Bid     | i)   | The Bidder shall prepare an original and the number of copies of the Bid indicated<br>in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF<br>BID," as appropriate. In the event of any discrepancy between them, the original<br>shall prevail.   |
|  | ii)  | The Bidder shall authorize a person/ persons for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.  |
|  | iii) | The original and the copy or copies of the Bid shall be typed or written in indelible<br>ink and shall be signed by the Bidder or a person duly authorized to bind the Bidder<br>to the contract. This authorization shall consist of a written confirmation as<br>specified in the <b>BDS</b> and shall be attached to the Bid. The name and position held<br>by each person signing the authorization must be typed or printed below the<br>signature. All pages of the Bid, shall be signed and stamped by the authorized<br>person. |
|  | iv)  | Any interlineations, erasures & cutting, or overwriting shall be valid only if they are signed and stamped by the person or persons signing the bid.  |

#### 2.4. Submission of Bids

| 2.4.1 Sealing<br>and<br>Marking<br>of Bids | i)   | As per Rule 24, the Bidder shall seal the original and each copy of the Bid in separate<br>envelopes, duly marking the envelopes as "ORIGINAL" and "COPY." The envelopes<br>shall then be sealed in an outer envelope. The bidder should submit technical and<br>financial bids in two separate envelopes clearly marking "Technical Bid" and<br>"Financial Bid" covered under one main (Outer) envelope marking Bid Reference and<br>Package Name on top left corner of the main (outer) envelope. Address and contact No.<br>of the bidder should also be written on inner and outer envelope. |
|--|------|--|
|  | ii)  | The inner and outer envelopes shall:<br>(a) be addressed to the Procuring Agency at the address given in the Bid Data Sheet;   |
|  |      | and<br>(b) bear the title of procurement Activity indicated in the Bid Data Sheet, the Invitation  |
|  |      | (b) bear the title of procedence Activity indicated in the Bid Data Sheet, the invitation<br>to Bids (ITB) title and number indicated in the Bid Data Sheet, and a statement:<br>"DO NOT OPEN BEFORE. (Time and date)," the outer and inner envelopes should<br>properly be sealed so that contents of the bid are fully enclosed and cannot be<br>known until open.   |
|  | iii) | The outer envelope and inner envelopes also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".   |
|  | iv)  | If the outer envelope is not sealed and marked properly, the Procuring Agency will assume no responsibility for the bid's misplacement or premature opening.   |
|  | v)   | Technical Bid / Proposal should consist of duly singed and stamped bidding documents,<br>Form of bid indicating country of origin and Brand, Model and literature / brochures<br>and all information / documents demanded in the bidding documents for technical<br>evaluation. Bid Security as demanded in advertisement / invitation to bid must be<br>placed in technical bid. Financial Bid / Proposal should consist of price / rates on the<br>prescribed format available in the bidding documents.   |

| 2.4.2 Deadline for Submission                       | i)   | Bids must be received by the Procuring Agency at the address specified in the bid data sheet no later than the time and date specified in the Bid Data Sheet.   |
|---|------|---|
| of Bids   | ii)  | The Procuring Agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents, in which case all rights and obligations of the Procuring Agency and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.                                       |
| 2.4.3 Late Bids                                     | i)   | Any bid received by the Procuring Agency after the deadline for submission of bids prescribed by the Procuring Agency will be rejected and returned unopened to the Bidder.   |
|   | ii)  | Any Bid received by the Procuring Agency after the deadline for submission of Bids shall be declared late, recorded, rejected and returned unopened to the Bidder.  |
| 2.4.4Modificatio<br>n and<br>Withdraw<br>al of Bids | i)   | The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring Agency prior to the deadline prescribed for submission of bids.  |
|   | ii)  | The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of Clause (i). A withdrawal notice may also be sent by email, but followed by a signed confirmation copy, postmarked not later than the deadline for submission of bids.                                   |
|   | iii) | No bid may be modified after the deadline for submission of bids.   |
|   | iv)  | No bid may be withdrawn in the interval between the deadline for submission of bids<br>and the expiration of the period of bid validity specified by the Bidder on the Bid Form.<br>Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid<br>security (along with other remedies available under PPR-14). |
|   | v)   | Revised bid may be submitted after the withdrawal of the original bid by written notice before the deadline for submission of Bids.   |

## 2.5. Opening and Evaluation of Bids

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| 2.5.1 Opening of<br>Bids by the<br>Procuring<br>Agency | i)   | the Procuring Agency will open all technical bids, in public, in the presence of bidders or<br>bidders' representatives who choose to attend, at the time, on the date, and at the place<br>specified in the <b>Bid Data Sheet</b> . The bidders or bidders' representatives who are present<br>shall sign an attendance sheet evidencing their presence.   |
|  | ii)  | First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding Withdrawal Notice contains a valid authorization to request the withdrawal and is read out at bid opening.   |
|  | iii) | Second, outer envelopes marked "SUBSTITUTION" shall be opened. The inner<br>envelopes containing the Substitution Bid shall be exchanged for the corresponding<br>Original Bid being substituted, which is to be returned to the Bidder unopened. No<br>envelope shall be substituted unless the corresponding Substitution Notice contains a<br>valid authorization to request the substitution and is read out and recorded at bid opening.   |
|  | iv)  | Next, outer envelopes marked "MODIFICATION" shall be opened. No Technical<br>Proposal and/or Financial Proposal shall be modified unless the corresponding<br>Modification Notice contains a valid authorization to request the modification and is read<br>out and recorded at the opening of the Bids. Any Modification shall be read out along<br>with the Original Bid except in case of Single Stage Two Envelope Procedure where only<br>the Technical Proposal, both Original as well as Modification, are to be opened, read out,<br>and recorded at the opening. Financial Proposal, both Original and Modification, will<br>remain unopened till the prescribed financial bid opening date. |
|  | v)   | At the first stage, only technical bids / proposals will be opened and sealed financial bids will remain under the custody of procuring agency until open in the second stage. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder, pursuant to 2.4.3 (i). The presence or absence of requisite bid security will be  |

|                                   | <ul> <li>announced. The technical proposals shall be discussed with the bidders with reference to the procuring agency's technical requirements;</li> <li>vi) those bidders willing to meet the requirements of the procuring agency shall be allowed to revise their technical proposals following these discussions; and bidders not willing to conform to the technical proposal as per revised requirements of the procuring agency shall be allowed to withdraw their respective bids without forfeiture of their bid security;</li> <li>Second stage</li> <li>vii) after agreement between the procuring agency and the bidders on the technical requirements, bidders who are willing to conform to the revised technical specifications and whose bids have not already been rejected shall submit a revised technical proposal and supplementary financial proposal, according to the technical proposal and supplementary financial proposal shall be opened at a date, time and venue announced in advance by the procuring agency:</li> <li>Provided that in setting the date for the submission of the revised technical proposals and supplementary financial proposal; and</li> <li>ix) The bidders' names, bid prices, discounts, and such other details as the Procuring Agency, at its discretion, may consider appropriate, will be announced at the opening. The procuring agency shall evaluate the whole proposal in accordance with the evaluation criteria and the lowest evaluated bid shall be accepted.</li> <li>x) The Procuring Agency will prepare minutes of the bid opening. Minutes of the Bid Opening shall be recorded and uploaded by the procuring agency on its website or shared to all bidders through e-mail.</li> </ul> |
|-----------------------------------|---|
| 2.5.2<br>Confidentiality          | <ul> <li>i) Information relating to the examination, clarification, evaluation and comparison of Bids and recommendation of contract award shall not be disclosed to Bidders or any other persons not officially concerned with such process until the time of the announcement of the respective evaluation report in accordance with the requirements of rule 37 of PPR-14.</li> <li>ii) Any effort by a Bidder to influence the Procuring Agency processing of Bids or award decisions may result in the rejection of its Bid.</li> <li>iii) Notwithstanding ITB Clause 2.2.2 from the time of Bid opening to the time of contract award, if any Bidder wishes to contact the Procuring Agency on any matter related to the Bidding process, it should do so in writing or in electronic forms that provides record of the content of communication.</li> </ul>  |
| 2.5.3<br>Clarification of<br>Bids | <ul> <li>During evaluation of the bids, the Procuring Agency may, at its discretion, ask the Bidder<br/>for a clarification of its Bid including breakdown of prices to determine its reasonability.<br/>The request for clarification and the response shall be in writing or in electronic forms,<br/>and no change in the prices or substance of the bid shall be sought, offered, or permitted.<br/>Any clarification submitted by a Bidder that is not in response to a request by the<br/>Procuring Agency shall not be considered.</li> </ul>  |
|                                   | ii) From the time of Bid opening to the time of Contract award if any Bidder wishes to contact the Procuring Agency on any matter related to the Bid it should do so in writing or in electronic forms that provide record of the content of communication.   |
| 2.5.4 Preliminary<br>Examination  | <ul> <li>The Procuring Agency will examine the bids to determine whether they are complete,<br/>whether any computational errors have been made, whether required securities have been<br/>furnished, whether the documents have properly been signed, and whether the bids are<br/>generally in order.</li> </ul>  |
|                                   | ii) Arithmetical errors will be rectified on the following basis.   |
|                                   | <ul> <li>a) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited.</li> </ul>   |

|  | <b>b)</b> If there is a discrepancy between words and figures, the amount in words will prevail.   |
|--|--|
|  | <ul> <li>Prior to the detailed evaluation, the Procuring Agency will determine the substantial responsiveness of each bid to the bidding documents, pursuant to ITB Clause 2.5.5. For purposes of these Clauses, a substantially responsive bid is one which most closely conforms to all the terms and conditions of the bidding documents without deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning Bid Security (ITB Clause 2.3.8), Applicable Law (GCC Clause 30), Taxes and Duties (GCC Clause 32) &amp; mandatory Registrations/ Renewals will be deemed to be a material deviation. The Procuring Agency's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence.</li> </ul>  |
|  | iv) If a bid is not substantially responsive, it will be rejected by the Procuring Agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.  |
|  | v) Prior to the detailed evaluation of Bids, the Procuring Agency will determine whether each Bid:   |
|  | <ul> <li>a) Meets the eligibility criteria defined in ITB 2.1.3 and ITB 2.1.4;</li> <li>b) Has been prepared as per the format and contents defined by the Procuring Agency in the Bidding Documents;</li> <li>c) Has been properly signed;</li> <li>d) Is accompanied by the required securities; and</li> </ul>  |
|  | <ul> <li>e) Is responsive to the requirements of the Bidding Documents.</li> <li>The Procuring Agency's determination of a Bid's responsiveness will be based on the contents of the Bid itself.</li> </ul>  |
| 2.5.5<br>Examination of<br>Terms and   | i) The Procuring Agency shall examine the Bid to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the Bidder without any material deviation or reservation.  |
| Conditions;<br>Technical<br>Evaluation | <ul> <li>The Procuring Agency shall evaluate the technical aspects of the Bid submitted to confirm that all requirements specified in Section III-Technical Specifications, Section VII – Schedule of Requirements &amp; Evaluation Criteria as provided in BDS, have been met without material deviation or reservation.</li> </ul>   |
|  | iii) If after the examination of the terms and conditions and the technical evaluation, the Procuring Agency determines that the Bid is not responsive in accordance, it shall reject the Bid.   |
| 2.5.6. Correction<br>of Errors         | <ul> <li>i) Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: - <ul> <li>a) If there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the Procuring Agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;</li> <li>b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the sub-totals shall prevail and the total shall be corrected; and</li> <li>c) Where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.</li> <li>d) Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.</li> <li>ii) The amount stated in the Bid will, be adjusted by the Procuring Agency in accordance with the above procedure for the correction of errors. The concurrence of the Bidder shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, its Bid will then be rejected, and the Bid Security</li> </ul> </li> </ul> |

|   | may be forfeited or the Bid Securing Declaration may be executed in accordance  |
|---|---|
|   | with <b>ITB 2.3.8</b> .   |
| Qualification &<br>Evaluation of<br>Bids    | i) In the absence of <b>prequalification</b> , the Procuring Agency will determine to its satisfaction whether the Bidder is qualified to perform the contract satisfactorily as per evaluation criteria listed in BDS & ITB clause 2.1.3.  |
|   | <ul> <li>The determination will take into account the Bidder's experience, Bidder's financial, technical, and production/ supplying capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 2.3.6, as well as such other information required for eligibility/ qualification expressed in BDS as the Procuring Agency deems necessary and appropriate.</li> </ul>   |
|   | iii) The Procuring Agency will <b>technically evaluate</b> and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 2.5.5, as per Technical Specifications required.  |
|   | <ul> <li>iv) The financial evaluation of a Bid will be on the basis of form of Price Schedules/<br/>Financial Bid Form 8.10. The bidder offering partial scope of work will be disqualified.<br/>The bidder offering complete scope of work and securing required marks or more in the<br/>technical evaluation will be declared technically qualified bidder. All quoted items of the<br/>complete package should meet the minimum required specification. In case any one item<br/>out of the complete package does not meet the minimum required specification then such<br/>a bid will be rejected. All bidders will be informed after technical evaluation either they<br/>are qualified or not.</li> <li>v) The Procuring Agency's financial evaluation of a bid will be on delivered duty paid<br/>(DDP) price inclusive of prevailing taxes and duties. A bid most closely conforming to</li> </ul> |
|   | evaluation criteria and other conditions specified in the bidding documents and having lowest evaluated cost will be selected as lowest evaluated bid.  |
| 2.5.9 Contacting<br>the Procuring<br>Agency | <ul> <li>No Bidder shall contact the Procuring Agency on any matter relating to its bid, from the<br/>time of the bid opening to the time evaluation report is made public i.e., 10 days before<br/>the contract is awarded. If the Bidder wishes to bring additional information or has<br/>grievance to the notice of the Procuring Agency, it should do so in writing.</li> </ul>  |
|   | ii) Any effort by a Bidder to influence the Procuring Agency during bid evaluation, or bid comparison may result in the rejection of the Bidder's bid.  |

| 2.5.10. Grievance<br>Redressal | i) As per Rule-67 of PPR-14, Procuring Agency has constituted a Grievance Redresse<br>Committee (GRC) with proper powers and authorization to address the complaints.  |
|--------------------------------|--|
|                                | ii) Any Bidder feeling aggrieved can file its written complaint against the eligibility<br>parameters or any other terms and conditions prescribed in the Bidding documents foun<br>contrary to provision of Rule 33, and the same shall be addressed by the Procurin<br>Agency well before the proposal submission deadline.  |
|                                | iii) Any party can file its written complaint against the eligibility parameters or any othe<br>terms and conditions prescribed in the bidding documents found contrary to provision o<br>Rule 34 and the same shall be addressed by the Procuring Agency well before the proposa<br>submission deadline.  |
|                                | iv) Any Bidder feeling aggrieved by any act of the Procuring Agency after the submission<br>of his Bid may lodge a written complaint concerning his grievances not later than ter<br>days after the announcement of the Final evaluation reports. In case of single stage – tw<br>envelope bidding procedure any bidder feeling aggrieved from technical evaluation may<br>file a grievance within 5 days of announcement of the technical evaluation report. After<br>completion of the technical evaluation process, the procuring agency shall immediately<br>upload the technical evaluation report on the website of PPRA and Procuring Agency for<br>obtaining/ receiving grievance petitions from the prospective bidders (if any). |
|                                | v) In case, the complaint/grievance is filed after the issuance of the final evaluation report<br>the complainant cannot raise any objection on technical evaluation of the report. Provide<br>that the complainant may raise the objection on any part of the final evaluation report is<br>case where single stage one envelop bidding procedure is adopted.   |
|                                | vi) The GRC shall investigate and decide upon the complaint within fifteen days of th receipt of the complaint. Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.   |

#### 2.6. Award of Contract

| 2.6.1. Notification<br>of Award | i)   | Prior to the expiration of the period of bid validity, the Procuring Agency<br>will notify the successful Bidder in writing by registered letter or by email<br>to be confirmed in writing by registered letter, that its bid has been<br>accepted.  |
|---------------------------------|------|--|
|                                 | ii)  | The notification of award will constitute the formation of the Contract.   |
|                                 | iii) | Upon the successful Bidder's furnishing of the Performance Guarantee pursuant to ITB Clause 2.6.2 (i), the Procuring Agency will promptly notify each unsuccessful Bidder and will discharge its Bid security, pursuant to ITB Clause 2.3.8 (v).   |
| 2.6.2 Performance<br>Guarantee  | i)   | Within seven (07) days of the receipt of notification of award, the successful Bidder shall furnish the performance guarantee in accordance with the Conditions of Contract, in the Performance Guarantee Form provided in the bidding documents, or in another form acceptable to the Procuring Agency.   |
|                                 | ii)  | Failure of the successful Bidder to comply with the requirement of ITB Clause (i) above or ITB Clause 2.6.3 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security along with other remedies available under PPR-14. After that, the Procuring Agency may decide to award the contract to the next lowest evaluated Bidder, keeping in view the Bid validity time, or call for new Bids keeping in view the concept of value for money as defined under rule-2(ae) read with Principles of Procurement as enunciated in rule-4 of PPR-14. |

| 2.6.3 Signing of<br>Contract/ Issuance<br>of Purchase Order                  | i)   | At the same time as the Procuring Agency notifies the successful Bidder<br>that its Bid has been accepted, the Procuring Agency will <b>send the Bidder</b><br><b>the Contract Form provided in the Bidding documents, incorporating</b><br><b>all agreements between the parties.</b> Within seven (07) days of issuance<br>of notification of award, the successful Bidder shall sign, stamp and date<br>the contract.  |
|--|------|---|
|  | ii)  | The procuring agency shall issue purchase order after the receipt of required performance guarantee, as per rule 55 of PPR-14.  |
| 2.6.4 Award<br>Criteria  | i)   | Subject to ITB Clause 2.6.2, under rule-55 of PPR-14, the Procuring Agency will award the contract to the successful Bidder whose Bid has been determined to be responsive and has been determined to be the lowest evaluated Bid, provided that the Bidder has been determined to be qualified to perform the contract satisfactorily.   |
| 2.6.5. Procuring<br>Agency's Right to<br>Vary Quantities at<br>Time of Award | i)   | The Procuring Agency reserves the right at the time of contract award to increase or decrease the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions, on the analogy of rule-59 I(iv) of PPR-14 (not more than 15%).  |
| 2.6.6 Procuring<br>Agency's Right to<br>Accept or Reject<br>All Bids         | i)   | As per rule 35 of PPR-14, the Procuring Agency reserves the right to accept<br>or reject all bids, and to annul the bidding process at any time prior to<br>contract award, without thereby incurring any liability to the Bidder or<br>bidders or any obligation to inform the bidders of the grounds for the<br>Procuring Agency's action.  |
|  | ii)  | The Bidders shall be promptly informed about the rejection of the Bids, if any.   |
|  | iii) | The Procuring Agency shall upon request communicate to any Bidder, the grounds for its rejection of all Bids or proposals, but shall not be required to justify those grounds.  |
| 2.6.7 Re-bidding   | i)   | If the Procuring Agency rejects all the Bids under rule 35, it may proceed<br>with the process of fresh Bidding but before doing that it shall assess the<br>reasons for rejection and may, if necessary, revise specifications,<br>evaluation criteria or any other condition for Bidders.   |
| 2.6.8 Corrupt or<br>Fraudulent<br>Practices                                  | i)   | <ul> <li>The Procuring Agency requires that Bidders, Suppliers, and Contractors observe the highest standard of ethics during the procurement and execution of contracts. For the purposes of this provision, the terms set forth below are defined as follows:</li> <li>(a) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official, bidder or Contractor in the procurement process or in contract execution; and</li> <li>(b) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring Agency,</li> <li>(c) "collusive practice" is an arrangement among bidders (prior to or after bid submission) designed to establish bid prices at artificial,</li> </ul> |
|  |      | non-competitive levels for any wrongful gains, and to deprive the<br>Procuring Agency of the benefits of free and open competition and<br>any request for, or solicitation of anything of value by any public   |

| official in the course of the exercise of his duty; it may include any of the following:  |
|---|
| i. Coercive practice by impairing or harming, or threatening to impair or<br>harm, directly or indirectly, any party or the property of the party to<br>influence the actions of a party to achieve a wrongful gain or to cause a<br>wrongful loss to another party;  |
| <ul> <li>ii. Collusive practice by arrangement between two or more parties to the procurement process or Contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;</li> </ul>   |
| iii. Offering, giving, receiving or soliciting, directly or indirectly, of anything   |
| <ul><li>of value to influence the acts of another party for wrongful gain;</li><li>iv. Any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;</li></ul>   |
| v. Obstructive practice by harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a Contract or deliberately destroying, falsifying, altering or concealing of evidence material to the  |
| investigation or making false statements before investigators in order to<br>materially impede an investigation into allegations of a corrupt,<br>fraudulent, coercive or collusive practice; or threatening, harassing or<br>intimidating any party to prevent it from disclosing its knowledge of<br>matters relevant to the investigation or from pursuing the investigation,<br>or acts intended to materially impede the exercise of inspection and audit<br>process." |
| ii) Placklisting & Deharmont.   |
| <ul><li>ii) Blacklisting &amp; Debarment:</li><li>Blacklisted Consultants and those found involved in "Corrupt Practices" are not allowed to participate in bidding.</li></ul>  |
| <b>Requirements &amp; Procedure for Blacklisting &amp; Debarment:</b><br>Asper As per S-17A of PPRA, Act, 2009:   |
| <ul> <li><b>*17A</b> of FFRA, Act, 2009.</li> <li><b>*17A. Blacklisting.</b> – (1) A procuring agency may, for a specified period and in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of the procuring agency, if the bidder or Contractor indulges in corrupt practice or any other prescribed practice.</li> </ul>  |
| <ul> <li>(2) The Managing Director may, in the prescribed manner, debar a bidder or Contractor from participating in any public procurement process of all or some of the procuring agencies for a specified period.</li> </ul>   |
| (3) Any person, aggrieved from a decision of a procuring agency, may within prescribed<br>period prefer a representation before the Managing Director.  |
| <ul> <li>(4) A procuring agency or any other person, aggrieved from a decision of the Managing<br/>Director, may within prescribed period prefer a representation before the Chairperson<br/>whose decision on such representation shall be final.]</li> </ul>  |
| <ul> <li>As per rule 21 of PPR-14:</li> <li>21. Blacklisting(1) A procuring agency may, for a specified period, debar a bidder or Contractor from participating in any public procurement process of the procuring agency if the hidder or Contractor has:</li> </ul>   |
| agency, if the bidder or Contractor has:<br>(a) acted in a manner detrimental to the public interest or good practices;<br>(b) consistently failed to perform his obligation under the Contract;  |
| I not performed the Contract up to the mark; or<br>(d) indulged in any corrupt practice.  |
| (2) If a procuring agency debars a bidder or Contractor under sub-rule (1), the procuring agency:   |
|   |

| (a) shall forward the decision to the Authority for publication on the website of the Authority;  |
|---|
| and   |
| (b) may request the Authority to debar the bidder or Contractor for procurement of all  |
| procuring agencies.<br>(3) The Managing Director may debar a bidder or Contractor of any procuring agency from  |
| participating in any public procurement process of all or some of the procuring agencies  |
| for such period as the Managing Director may determine.   |
| (4) Any person aggrieved by a declaration made under rule 20 or a decision under sub-rule (1)   |
| of this rule may, within thirty days from the date of the publication of the information on   |
| the website of the Authority, file a representation before the Managing Director and the  |
| Managing Director may pass such order on the representation as he may deem fit.   |
| (5) Any person or procuring agency aggrieved by an order under sub-rule (3) or (4) may, within  |
| thirty days of the order, file a representation before the Chairperson and the Chairperson  |
| may pass such order on the representation as he may deem appropriate.<br>(6) The mechanism or process for barring a bidder or Contractor from participating in                                |
| procurement process of a procuring agency, procuring agencies and a representation  |
| under this rule is specified in the Schedule appended to these rules.   |
| As per Schedule appended with PPR-14:   |
| SCHEDULE  |
| see sub-rule (6) of rule 21   |
| BLACKLISTING MECHANISM OR PROCESS   |
| 1. The procuring agency may, on information received from any resource, issue show  |
| cause notice to a bidder or Contractor.   |
| 2. The show cause notice shall contain:<br>(a) precise allegation against the hidder or Contractor:   |
| <ul> <li>(a) precise allegation, against the bidder or Contractor;</li> <li>(b) the maximum period for which the procuring agency proposes to debar the bidder or</li> </ul>                  |
| Contractor from participating in any public procurement of the procuring agency; and  |
| I the statement, if needed, about the intention of the procuring agency to make a request to  |
| the Authority for debarring the bidder or Contractor from participating in public   |
| procurements of all the procuring agencies.   |
| 3. The procuring agency shall give minimum of seven days to the bidder or Contractor for  |
| submission of written reply of the show cause notice.   |
| 4. In case, the bidder or Contractor fails to submit written reply within the requisite time,   |
| the procuring agency may issue notice for personal hearing to the bidder or Contractor/<br>authorize representative of the bidder or Contractor and the procuring agency shall                |
| decide the matter on the basis of available record and personal hearing, if availed.  |
| 5. In case the bidder or Contractor submits written reply of the show cause notice, the   |
| procuring agency may decide to file the matter or direct issuance of a notice to the  |
| bidder or Contractor for personal hearing.  |
| 6. The procuring agency shall give minimum of seven days to the bidder or Contractor for  |
| appearance before the specified officer of the procuring agency for personal hearing.   |
| 7. The procuring agency shall decide the matter on the basis of the available record and  |
| <ul><li>personal hearing of the bidder or Contractor, if availed.</li><li>8. The procuring agency shall decide the matter within fifteen days from the date of</li></ul>                      |
| 8. The procuring agency shall decide the matter within fifteen days from the date of personal hearing unless the personal hearing is adjourned to a next date and in                          |
| such an eventuality, the period of personal hearing is adjourned to a next date and in<br>such an eventuality, the period of personal hearing shall be reckoned from the last date            |
| of personal hearing.  |
| 9. The procuring agency shall communicate to the bidder or Contractor the order of  |
| debarring the bidder or Contractor from participating in any public procurement with a  |
| statement that the bidder or Contractor may, within thirty days, prefer a representation  |
| against the order before the Managing Director of the Authority.  |
| 10. The procuring agency shall, as soon as possible, communicate the order of blacklisting to the Authority with the request to upload the information on its website.                        |
| 11. If the procuring agency wants the Authority to debar the bidder or Contractor from  |
| participating in any public procurement of all procuring agencies, the procuring agency   |
| shall specify reasons for such dispensation.  |
| 12. The Authority shall immediately publish the information and decision of blacklisting on   |
| its website.  |
| 13. In case of request of a procuring agency under para 11 or representation of any   |
| aggrieved person under rule 21, the Managing Director shall issue a notice for personal   |
| hearing to the parties and call for record of proceedings of blacklisting. The parties may  |
| <ul><li>file written statements and documents in support of their contentions.</li><li>14. In case of representation of any aggrieved person or procuring agency under rule 21, the</li></ul> |
| Chairperson shall issue a notice for personal hearing to the parties and may call for the   |
| champerson shan issue a nonce for personal nearing to the parties and may can for the   |

|       |              |      | record of the proceedings. The parties may file written statements and documents in support of their contentions.   |
|-------|--------------|------|---|
|       |              | 15.  | In every order of blacklisting under rule 21, the procuring agency shall record reasons of blacklisting and also reasons for short, long or medium period of blacklisting.  |
|       |              | 16.  | The Authority shall upload all the decisions under rule 21, available with it, on its website. But the name of a bidder or Contractor shall immediately be removed from the list of blacklisted persons on expiry of period of blacklisting or order of the competent authority to that effect, whichever is earlier. |
|       |              | 17.  | An effort shall be made for electronic communication of all the notices and other documents pursuant to this mechanism or process."   |
|       |              | iii) | Furthermore, Bidders must keep themselves aware of the provision stated in clause 5.4 and clause 24.1 of the General Conditions of Contract.  |
| 2.6.9 | Verification | i)   | Procuring agency can verify any or all documents / information submitted<br>by the bidder. In case of bogus documents and wrong information the same<br>would not be considered for evaluation and the bid will be rejected.  |

# Section-III. Technical Specifications

**3.1.** Technical Specifications

Note: (1) It is mandatory for Bidder to present pre-delivery demonstration/ Inspection to the Procuring Agency at bidder's cost. Operational manual and maintenance manual in English language both in pdf format and hard form are mandatory for all machinery, equipment, apparatus, instruments.
(2) Manufacturer's Authorization letter is mandatory for each equipment costing more than Rs. 20,000/-. Equipments of higher specifications will also be accepted.

#### **Electrical Machines Lab**

| S.# | Description  | Quantity |
|-----|--|----------|
| 1   | Frequency Meter 400V,  | 1        |
|     | Must Contain atleast 7 modules   |          |
|     | Frequency Meter 400V   |          |
|     | • Over Frequency Protection  |          |
|     | Under Frequency Protection   |          |
|     | • Frequency measurements   |          |
|     | • Frequency range 45-65Hz  |          |
|     | • Max Voltage 500V   |          |
|     | • Safety earth connection provided   |          |
|     | • Connects via 4mm safety sockets  |          |
|     | DC-Shunt Machine   |          |
|     | • Metal housing with internal connections explained by a clear synoptic                    |          |
|     | • Operates as a DC shunt motor or generator  |          |
|     | • Nominal voltage 220V;  |          |
|     | • Nominal speed 3000rpm, Nominal power 0.25kW;   |          |
|     | <ul> <li>Safety earth connection provided</li> </ul>                                       |          |
|     | DC Series Wound Machine  |          |
|     | Modularity and expansions over time  |          |
|     | <ul> <li>Metal housing with internal connections explained by a clear synoptic</li> </ul>  |          |
|     | <ul> <li>Operates as a DC series motor or generator;</li> </ul>                            |          |
|     | <ul> <li>Nominal voltage 220V;</li> </ul>  |          |
|     | <ul> <li>Nominal speed 3000rpm, Nominal power 0.25kW;</li> </ul>                           |          |
|     | DC Compound Wound Machine  |          |
|     | <ul> <li>Modularity and expansions over time</li> </ul>                                    |          |
|     | <ul> <li>Metal housing with internal connections explained by a clear synoptic</li> </ul>  |          |
|     | <ul> <li>Operates as a DC series, shunt and compound motor or generator</li> </ul>         |          |
|     | <ul> <li>Nominal voltage 220V;</li> </ul>  |          |
|     | <ul> <li>Nominal speed 3000rpm, Nominal power 0.25kW;</li> </ul>                           |          |
|     | <ul> <li>Safety earth connection provided</li> </ul>                                       |          |
|     | Starter rheostat for DC Motor  |          |
|     | Resistance: 0-50 ohm   |          |
|     | Rated current: 3.6 A   |          |
|     | <ul> <li>Max. cont. load: 640W</li> </ul>  |          |
|     |  |          |
|     | • Safety earth connection provided<br>Starter Physics Stir Ding and Case Three phase Motor |          |
|     | Starter Rheostat for Slip Ring and Cage Three-phase Motor                                  |          |
|     | • Resistance: 3 x 0-50 ohm   |          |
|     | • Rated current: 3 x 3.1A  |          |
|     | • Max. cont. load: 3 x 320W  |          |
|     | • Safety earth connection provided   |          |
|     | Field Rheostat for DC Motor  |          |
|     | • Resistance: 0-1600 ohm   |          |
|     | • Rated current: 0.6 A   |          |
|     | • Max. cont. load: 640W  |          |
|     | Safety earth connection provided   | A        |
| 2   | Frequency Meter Digital  | 4        |
|     | • Used with synchronous machines   |          |
|     | • Frequency and voltage measurements   |          |
|     | • Ideally suited to the application of synchronizing generators and supplies               |          |
|     | • Voltage range 0 – 500V   |          |

|   | • Frequency range 45 – 55Hz  |    |
|---|--|----|
|   | • Safety earth connection provided   |    |
|   | • Connects via 4mm safety sockets  |    |
|   | Frame or bench mounting  |    |
| 3 | Power Factor Meter   | 12 |
| 5 |  | 12 |
|   | • Measuring range: cap. $0.5 - 1 - 0.5$ ind.   |    |
|   | • Current range: 0 – 10A   |    |
|   | • Voltage range: 220V – 380V   |    |
|   | • Frequency range: $40 - 65$ Hz  |    |
|   | • Accuracy: class 1.5  |    |
|   | • Safety earth connection provided   |    |
|   | Connects via 4mm safety sockets  |    |
| 4 | Synchronoscope 400V  | 4  |
|   | Voltage: 380 V   |    |
|   | Frequency: 45-60 Hz  |    |
| 5 | Phase Sequence Indicator   | 4  |
| Ŭ | Protection class: IP24   | •  |
|   | <ul> <li>Input voltage: 100~600V AC</li> </ul>   |    |
|   | 1 0  |    |
| - | Frequency range: 45~70Hz   | 10 |
| 6 | Bench Digital Multimeter   | 12 |
|   | <ul> <li>DC Voltage (V) 1μV ~ 1000V</li> </ul>   |    |
|   | <ul> <li>AC Voltage (V) 200mV ~ 750V</li> </ul>  |    |
|   | <ul> <li>DC Current (A) 0.001µA~10A</li> </ul>   |    |
|   | <ul> <li>AC Current (A) 0.001µA~10A</li> </ul>   |    |
|   | • Resistance ( $\Omega$ ) 0.001 $\Omega$ ~20M $\Omega$   |    |
|   | • Capacitance (F): 0.001nF~2mF   |    |
|   | Frequency: $0.001$ Hz $\sim 20$ MHz  |    |
| 7 | Motor Gen Set  | 12 |
| 1 | Synchronous Machine  | 12 |
|   | •  |    |
|   | • Quick and easy coupling with other machines in the same series                                     |    |
|   | Modularity and expansions over time  |    |
|   | <ul> <li>Metal housing with internal connections explained by a clear synoptic</li> </ul>            |    |
|   | • Can be used as a motor or generator  |    |
|   | • Rated at 415/240V 200W   |    |
|   | <ul> <li>Synchronous speed 3,000 rev/min@50Hz</li> </ul>   |    |
|   | • Power Requirement 380/415V Three Phase AC star or 220/240V delta                                   |    |
|   | Nominal rotor supply 100V DC   |    |
|   | • Safety earth connection provided   |    |
|   | Prime Mover: DC Permanent Magnet Motor   |    |
| 8 | Power Supply Unit for Motor Gen Set  | 12 |
|   | Circuit breaker protection   | 12 |
|   | ·  |    |
|   | • Earth leakage breakers   |    |
|   | • Input: 3-phase 400V (3P+N+T)   |    |
| 1 | • Output Three phase nominally 0 - 400V AC line at 4A  |    |
|   | • Output Single Phase nominally 0 - 230V AC line to neutral at 4A                                    |    |
| 1 | <ul> <li>Output DC nominally 0 - 270V at 6A</li> </ul>   |    |
| 1 | • Fixed output: Three Phase 400V line, 230V Single Phase, DC 220V/10A                                |    |
| 1 | • Safety earth connection provided   |    |
|   | • Connects via 4mm safety sockets  |    |
|   | • Voltmeter & Ammeter  |    |
| 1 | • Emergency Pushbutton   |    |
|   | Mains Lamp   |    |
| 9 | Torque, Speed and Power Measuring Unit   | 12 |
| 9 | Magnetic powder brake as a mechanical load for torque detection of electric motors. A light          | 12 |
|   | excitation power is required and the full braking torque is available even at stand still. Linked to |    |
|   |  |    |
| 1 | the machine via a free shaft and with cog coupling sleeve. Anti-vibration base plate included        |    |
|   | • Rated torque: 35Nm   |    |
|   | • Rated Current: 1A  |    |
|   | Natural ventilation  |    |
|   | • Digital display for speed or torque  |    |
|   | • Speed range ±5000rpm.  |    |
|   |  |    |

|    |   | 1  |  |
|----|---|----|--|
|    | • Torque range up to 100Nm  |    |  |
|    | • Supply 220-240V AC at 5A, 50/60Hz                                     |    |  |
|    | • Output signal: 2mV/V  |    |  |
|    | • Capacity: 20Kg  |    |  |
|    | • Combined error: $\pm 0.02\%$ FS                                       |    |  |
|    | • Power supply: 5V - 18V  |    |  |
|    | • Material: Aluminum (A)  |    |  |
|    | • IP Rating: IP65   |    |  |
|    | • M18 Plastic brass body right angle optic                              |    |  |
|    | • 3 wire, PNP output  |    |  |
|    | • Operating voltage: 10-30Vdc   |    |  |
|    | Load current: 100mA   |    |  |
|    | Short circuit protection, IP67  |    |  |
| 10 | Single Phase Transformer 500VA  | 12 |  |
| 10 | <ul> <li>Multi-windings for series and parallel connection</li> </ul>   | 12 |  |
|    |   |    |  |
|    | • Primaries: 2 x 110V windings  |    |  |
|    | • Secondaries: 2 x 55V windings   |    |  |
|    | • Power rating 500VA  |    |  |
|    | • Frame or bench mounting   |    |  |
|    | Safety earth connection provided  |    |  |
| 11 | Three Phase Transformer 1500VA  | 12 |  |
|    | Primaries / Secondaries for Star or Delta connection                    |    |  |
|    | • 2 x 110V primaries per phase  |    |  |
|    | • 2 x 66.5V Secondaries per phase                                       |    |  |
|    | • Power rating 1500VA   |    |  |
|    | • Frame or bench mounting   |    |  |
|    | Safety earth connection provided  |    |  |
| 12 | Transformer Construction Kit  | 2  |  |
|    | Manual Coil Winding Machine   |    |  |
|    | Kit of Single-phase Transformer 200VA                                   |    |  |
|    | Kit of Single Phase Transformer 300VA                                   |    |  |
|    | Kit of Three Phase Transformer 300VA                                    |    |  |
|    | All transformers are without winding                                    |    |  |
|    | Copper wire for winding is not included                                 |    |  |
| 13 | Motor Construction Kit  | 2  |  |
| 10 | Atleast consists of 3 motors  | _  |  |
|    | • Equipment Familiarization   |    |  |
|    | Split-Phase Capacitor-Start Motor                                       |    |  |
|    | Three-Phase Squirrel Cage Induction Motor                               |    |  |
|    | DC compound motor   |    |  |
| 1  | Copper wire for winding is not included                                 |    |  |
| 14 | LCR Bridge (Bench type)   | 2  |  |
| 14 |   | 2  |  |
| 1  |   |    |  |
| 1  | Accuracy: 0.02%   |    |  |
| 1  | AC level Voltage range 0.1V,0.3V,1V                                     |    |  |
| 1  | <ul> <li>Main parameters: Cp,Cs,Lp,Ls,Z,R,G,Y</li> </ul>                |    |  |
| 1  | Maximum input voltage : Secondary parameters D,Q,X,B,Rp,Rs, 0 r, 0 d    |    |  |
| 1  | Display range:  |    |  |
| 1  | <ul> <li>R,X,  Z : 0.000010 - 99.9999MΩ;</li> </ul>                     |    |  |
|    | <ul> <li>G, B,  Y : 0.00001μS - 999.999S;</li> </ul>                    |    |  |
| 1  | <ul> <li>L: 0.00001μH - 9.99999kH;</li> </ul>                           |    |  |
| 1  | <ul> <li>C: 0.00001pF - 999.999mF</li> </ul>                            |    |  |
| 1  |   |    |  |
| 1  |   |    |  |
| 1  | <ul> <li>0: 0.00001 - 99999.9</li> <li>0 - 172 2222 172 2222</li> </ul> |    |  |
|    | • 0d:-179.999°-179.999°   |    |  |
| 1  | • Or:-3.14159 - 3.14159   |    |  |
| 1  | Test end configuration: Open circuit, short circuit                     |    |  |
| 1  | Clear function: Open circuit, short circuit                             |    |  |
| 1  | Equivalent mode: Series, parallel                                       |    |  |
|    | Range mode: Hold, auto  |    |  |
| L  |   |    |  |

|    | Trigger mode: Internal, manual, external, bus  |     |  |
|----|--|-----|--|
|    | Mathematical operation: Direct reading, AABS, A%   |     |  |
| 15 | LCR Meter  | 2   |  |
|    | Inductance (H): 20uH~2000H   |     |  |
|    | Capacitance (F): 200pF~20mF  |     |  |
|    | Resistance ( $\Omega$ ): 20 $\Omega$ ~200M $\Omega$  |     |  |
|    | Test frequency (Hz): 100Hz/120Hz/1kHz/10kHz/100k   |     |  |
|    | Operating voltage: 0.6Vrms   |     |  |
|    | Test parameters: L/C/R/DCR/Q/D/ $\theta$ /ESR  | 100 |  |
| 16 | Connecting Leads / Wires   | 100 |  |
|    | The set consists of 30 leads in 3 different coded colors and lengths chosen to allow the realization                               |     |  |
|    | of all experiments.  |     |  |
| 17 | Leads are capable of 15A current intensity and are terminated on banana-banana plugs.  | 8   |  |
| 17 | <b>Experimental Bench Stations</b><br>Table size: L=72", W=36", H=32", next shelf height=18", 3 side walls height=24", 6" top open | 0   |  |
|    | Frame size: $L=69^{\circ}$ , $W=33^{\circ}$ , $H=31^{\circ}$ of MS Box section 1.5" x 2.5", 18 gauge with hammer silver            |     |  |
|    | paint,   |     |  |
|    | Top and shelve thickness= $2 \times 32$ mm win-board duly polished as requirement.   |     |  |
|    | Plastic shoes for each leg   |     |  |
|    | Along with power connection of 4 sockets with one switch on both ends near top shelves along                                       |     |  |
|    | with power cable of 6 m length   |     |  |
|    | Bidder has to provide sample at the time of bid opening at university Campus   |     |  |
| 19 | Contingencies (components, cables etc.) one set Misc. accessories / parts  | 1   |  |
|    | <ul> <li>Wire Strippers/Cutters (6") 20pcs</li> </ul>  | -   |  |
|    | Tweezers 20pcs   |     |  |
|    | <ul> <li>Digital Callipers 10pcs</li> </ul>  |     |  |
|    |  |     |  |
|    |  |     |  |
|    | • Storage Containers (Drawer Size: 8" x 12", 4 drawers in each cabinet) (Qty: 4 cabinets)  |     |  |
|    | Labels and Markers (Board Markers: 10pcs, Sticky Notes (Labels): 10pcs)  |     |  |
|    | Magnifying Glass 3" (Qty: 10pcs)   |     |  |
|    | Ball Pein Hammer 24oz Qty1pc   |     |  |
|    | Combination Plier 8" (Qty: 5pcs)   |     |  |
|    | <ul> <li>Long Nose Plier 6" (Qty: 5pcs)</li> </ul>   |     |  |
|    | <ul> <li>8PCS DOUBLE OPEN END SPANNER SET, 6×7mm 8×9mm 10×11mm 12×13mm</li> </ul>  |     |  |
|    | 14×15mm 16×17mm 18×19mm 20×22mm (Qty: 1pc)   |     |  |
|    | <ul> <li>Square Steel 12" (Qty: 2pcs)</li> </ul>   |     |  |
|    | Screwdriver sets,  |     |  |
|    | SL6*38mm SL5*75mm SL6*100mm PH2*38mm PH1*75mm PH2*100mm, (Qty:   |     |  |
|    | 1pc)   |     |  |
|    | <ul> <li>5pcs Steel file set size:8" (1 pc)</li> </ul>   |     |  |
| 1  | • Tool Kit (Qty: 1 Set) consists of Lineman's pliers: 165mm  |     |  |
|    | Side cutting pliers: 125 mm  |     |  |
|    | Long nose pliers: 150 mm   |     |  |
|    | Soldering iron stand with sponge   |     |  |
|    | Desoldering pump   |     |  |
|    | Ceramic soldering iron   |     |  |
|    | screwdriver: 3.2x75 mm   |     |  |
| 1  | screwdriver: #0x75 mm  |     |  |
|    | screwdriver: 5.0x75 mm   |     |  |
|    | screwdriver: #1x75 mm  |     |  |
|    | screwdriver: 6.0x100 mm  |     |  |
|    | screwdriver: #2x100 mm   |     |  |
|    | screwdriver: 3/16"   |     |  |
|    | screwdriver: 1/4"  |     |  |
|    | Electronic screwdriver set (6 pcs.)  |     |  |
|    | Professional multimeter  |     |  |
|    | Folding type hex key set (7 pcs.)  |     |  |
|    | PVC insulated tape   |     |  |
|    | Solder core  |     |  |
|    | <ul> <li>Allen Key Set (7pcs)</li> </ul>   |     |  |
|    |  |     |  |

|    | Blower 400W   |   |
|----|---|---|
| 20 | Motor Generator Cutaway   | 1 |
|    | Sectioned Model of DC Permanent Magnet Motor and Three Phase Synchronous Machine          |   |
| 21 | Alternator & Parallel Operation Experiment  | 1 |
|    | • Can be connected for lamps-bright or lamps-dark technique                               |   |
|    | • A power switch is provided to connect the systems together                              |   |
|    | Accommodates Single or Three Phase  |   |
|    | • 380 - 415V operation  |   |
|    | Safety earth connection provided  |   |
| 22 | Centrifugal Switch Start Single Phase Induction Motor                                     | 1 |
|    | • Quick and easy coupling with other machines in the same series                          |   |
|    | Modularity and expansions over time   |   |
|    | • Metal housing with internal connections explained by a clear synoptic                   |   |
|    | • Capacitor Start with starting relay;  |   |
|    | • Nominal voltage: 220/230V AC, single-phase/50Hz;  |   |
|    | • Speed: 2800rpm;   |   |
|    | • Nominal power: 0.3kW;   |   |
|    | Starting capacitor;   |   |
| 23 | Universal Motor   | 1 |
|    | <ul> <li>Metal housing with internal connections explained by a clear synoptic</li> </ul> |   |
|    | • Rated at 250 W continuous   |   |
|    | • Maximum speed 6,000 rev/min   |   |
|    | Power Requirement 220V DC or Single Phase AC 50Hz supply                                  |   |
| 24 | Reluctance Motor  | 1 |
|    | • Metal housing with internal connections explained by a clear synoptic                   |   |
|    | • Rated at 250 W continuous   |   |
| _  | Maximum speed 3000 rev/min  |   |
| 25 | Brushless DC Motor  | 1 |
|    | • Quick and easy coupling with other machines in the same series                          |   |
|    | Modularity and expansions over time   |   |
|    | <ul> <li>Metal housing with internal connections explained by a clear synoptic</li> </ul> |   |
|    | • Nominal voltage 220V;   |   |
|    | Nominal speed 3000rpm, Nominal power 0.3kW;   |   |
| 26 | Electric Machine Trainer  | 4 |
|    | Power Supply  |   |
|    | • Circuit breaker protection  |   |
|    | • Earth leakage breakers  |   |
|    | • Input: 220/240V AC, 50/60Hz, 5A   |   |
|    | • Provides up to 240V AC or 220V DC at up to 5A   |   |
|    | Variable voltage control with voltmeter   |   |
|    | • AC or DC selector switch  |   |
|    | Three Phase Squirrel Cage Motor   |   |
|    | • Quick and easy coupling with other machines in the same series                          |   |
|    | Modularity and expansions over time   |   |
|    | • Metal housing with internal connections explained by a clear synoptic                   |   |
|    | • Dual voltage machine, 380/415V, Star, 220/240V Delta                                    |   |
|    | • Rated at 250W   |   |
|    | • Rotates at up to 3000 rev/min at 50Hz (1500 ON REQUEST)                                 |   |
|    | Three Phase Slip Ring Asynchronous Motor  |   |
|    | • Metal housing with internal connections explained by a clear synoptic                   |   |
|    | • Nominal voltage: 220/380/400V (delta/star) / 50Hz;                                      |   |
|    | • Nominal speed: 2800rpm;   |   |
|    | • Nominal power: 0.2kW;   |   |
|    | Asynchronous Machine 2/4 Pole Windings  |   |
|    | Modularity and expansions over time   |   |
|    | • Metal housing with internal connections explained by a clear synoptic                   |   |
|    | • Nominal voltage: 220/230/400V, 50Hz;  |   |
|    | • Number of stator windings: 3;   |   |
|    | • Number of stator connections: 3;  |   |
|    | • Nominal power: 0.3kW;   |   |

|    | Resistance Load   |   |
|----|---|---|
|    | • Seven resistor values per bank                            |   |
|    | • DC and single-phase 240V mode                             |   |
|    | • Three-phase delta 240V/three-phase star 400V, 300 watts   |   |
|    | • Fuse protected at 0.5A                                    |   |
|    | • Safety earth connection provided                          |   |
|    | Capacitive Load   |   |
|    | • Seven capacitive values per bank                          |   |
|    | • Single-phase 240V mode                                    |   |
|    | • Three-phase delta 240V/three-phase star 400V, 300 watts   |   |
|    | • Fuse protected at 0.8A per bank                           |   |
|    | • Safety earth connection provided                          |   |
|    | Inductive Load  |   |
|    | • Seven inductive values per bank                           |   |
|    | • Single-phase 240V mode                                    |   |
|    | • Three-phase delta 240V/three-phase star 400V, 300 watts   |   |
|    | • Fuse protected at 0.5A per bank                           |   |
|    | Three Phase Inverter  |   |
|    | Control operating control                                   |   |
|    | • Rated insulation voltage Ui: 690V                         |   |
|    | • Rated operational current 10A                             |   |
|    | • Safety earth connection provided                          |   |
|    | • Connects via 4mm safety sockets                           |   |
|    | Star/Delta Switch   |   |
|    | • Star/Delta starter for 3-ph squirrel case induction motor |   |
|    | • Rated insulation voltage Ui: 690V                         |   |
|    | • Rated operational current 10A                             |   |
|    | Safety earth connection provided                            |   |
| 27 | Hysteresis Motor  | 6 |
|    | Rated Voltage: 24V AC                                       |   |
|    | Speed: 4rpm   |   |
|    | Power: 6.5W   |   |

# Section-IV: Bid Data Sheet

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB) Section II. Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

|                         |  | A. Introduction  |  |  |  |
|-------------------------|--|--|--|--|--|
| BDS<br>Clause<br>Number | ITB<br>NumberAmendments of, and Supplements to, Clauses in the Instruction to Bidders  |  |  |  |  |
| 1.                      | 2.1.1  | Name of Procuring Agency: <b>Punjab university of Technology Rasul</b><br>The subject of procurement is: Equipments for Electrical Machines Lab<br>Period for delivery of goods: <b>90 days</b><br>Commencement date for delivery of Goods: <b>immediately on signing the contract and issuance of</b><br><b>Procurement/Supply order</b>  |  |  |  |
| 2.                      | 2.1.2 Financial year for the operations of the Procuring Agency: 2023-24<br>Name of Project: Provision of Infrastructural, Academic and Operational Facilities to the Punjab University of Technology Rasul MB Din<br>Name of financing institution: Government of Punjab (Development Fund)<br>Name and identification number of the Contract: Equipments for Electrical Machines I<br>(PUT/PMU/2023-24/16) |  |  |  |  |
| 3.                      | 2.1.3  | provide relevant certificates of non-debarred/ non-blacklisting, NTN, STRN, non-bankrupt, non-<br>involvement in corrupt and fraudulent practices  |  |  |  |
| 4.                      | 2.1.4  | Ineligible countries are: India and Israel   |  |  |  |
| 5.                      | 2.3.6<br>(iii)   | Authorization by manufacturer/dealer/seller: required on Form 8.3<br>Qualification requirements. The potential bidder must also fulfill the following:<br>Technical Brochures of goods quoted, mentioning its specifications, manufacturer's Brand and<br>model etc.   |  |  |  |
|                         |  | B. Bidding Documents   |  |  |  |
| 6.                      | 2.2.2<br>(i)   | The address for clarification of Bidding Documents: Procurement Officer, Punjab University of Technology Rasul. 0336-1031892, email: rasulian786@gmail.com   |  |  |  |
| 7.                      | 2.2.2 (iv)<br>2.2.2(v)<br>2.2.2(vi)  | Date of Uploading of responses to clarifications (if any) on procuring agency website: on 21-9-23.<br>Pre-bid meeting will be held on 18-09-2023 at 11:00AM in conference room of PUT Rasul<br>Minutes of Meeting along with clarification will be uploaded on PUT Rasul website on 21-9-23.   |  |  |  |
| 8.                      | 2.3.9  | The number of bidding documents to be completed and returned is in <b>one original and one copy</b> .  |  |  |  |
|                         | C.   | Bid Price, Currency, Language and Country of Origin  |  |  |  |
| 9                       | 2.3.1  | Language of the bid – English and other documents brochures etc., if not available in English will be provided after translation in English language by approved translation agency.   |  |  |  |
| 10                      | 2.3.4  | The Full and final prices shall be quoted in <b>Pak Rupees</b><br>The price quoted shall be Delivered Duty Paid.   |  |  |  |
| 11.                     | 2.3.4  | The Full and final prices shall be quoted in <b>Pak Rupees</b>   |  |  |  |
| 12.                     | 2.1.4 (ii)   | Country of origin: Origin in eligible source countries, as per policy of Govt. of Pakistan   |  |  |  |
|                         | ·  | D. Preparation and Submission of Bids  |  |  |  |
| 13.                     | 2.1.3  | Oualification Criteria/Knock down criteria.  |  |  |  |
|                         |  | <ul> <li>a) NTN registration certificate of firm. Attested copy</li> <li>b) General Sales Tax registration certificate of firm. Attested copy</li> <li>c) Active Tax Payer Status FBR</li> <li>d) Professional Tax certificate 2022 or latest. Attested copy</li> <li>e) Average Annual Turnover for last 5 years must be Rs. 50 million or More (provide last 05 years "2018,2019, 2020, 2021 &amp; 2022" Income Tax Returns)</li> <li>f) Technical Brochures of goods quoted, mentioning its specifications, manufacture's Brand and model.</li> <li>g) certificate of legally and financially autonomous &amp; operation of non-dependency to Government under commercial law (for Government-owned enterprises).</li> <li>h) Firm must be in operation from last 05 years (NTN registration 05 years old)</li> <li>i) Technical Brochures/ catalogues of goods quoted MUST be attached</li> <li>j) An affidavit on legal stamp paper worth Rs. 300 to the effect that</li> </ul> |  |  |  |

| 23. | 2.3.5      | The currency that shall be used for Bid evaluation and comparison purposes only in Pak Rupees.   |
|-----|------------|--|
| 22. | 2.5.1      | The Bid opening shall take place at: <u>As per advertisement, 30 minutes after closing time of bid</u> <u>submission.</u>  |
|     |            | E. Opening and Evaluation of Bids  |
| 21. | 2.3.9      | Number of copies of the Bid to be provided are: <u>one original &amp; one copy</u>   |
| 20. | 2.3.8      | Bid validity period after opening of the Bid is: <u>120 days</u>   |
|     |            | Technology Rasul valid for warranty period.  |
|     |            | Bid security in shape of Call Deposit Receipt (CDR) in favour of Punjab University o   |
| 17. | 2.3.1      | Amount of Bid security is about $2\%$ of estimated price= <u>Rs. 777,000/-</u>   |
| 19. | 2.3.7      | period.<br>Estimated Contract Price is: Rs. 38,850,000/-   |
|     |            | Guarantee, Call Deposit in favour of Punjab University of Technology Rasul valid for warranty  |
| 18. | 2.6.2      | Amount of Performance Guarantee is: ten percent (10%) of the contract amount in shape of Bank  |
|     |            | Technology Rasul, 13-km, Sarai Alamgir Road, Mandi Bahauddin.  |
| ±/• | 2.0.1      | 30 minutes after closing time of bid submission in Conference Room of Punjab University o  |
| 17. | 2.5.1      | Time, date/ Month/ Year, and place for Bid opening.  |
| 16. | 2.4.2 (ii) | Deadline for Bid submission: As per Advertisement of this package and can be amended as per need.  |
| 16  |            | Bahauddin.   |
|     |            | Project Director, Punjab University of Technology Rasul, 13-km, Sarai Alamgir Road, Mand   |
| 15. | 2.4.2 (i)  | Bid shall be submitted to:   |
|     | 2.3.7      | Supplier will provide certificate that he will provide spare parts demanded by the procuring agency within 07 days for parts available in Pakistan and within 60 days for foreign spare parts. |
| 14. | 2.3.6&     | Spare parts may be required for <u>05</u> years of operation.  |
|     |            | <ul> <li>Partner/ distributor/ dealer/ seller as given in specifications (provide certificates form 8.3)</li> <li>Registration of the Bidder with relevant forums/ organizations.</li> </ul>   |
|     |            | k) Bidder is authorized for supply of goods for this tender from the manufacturer /authorized  |
|     |            | • The provided information is correct.   |
|     |            | • The documents/photocopies provided with Bid are authentic. In case of any fake/bogus document found at any stage, the Bidder shall be blacklisted as per Law/ Rules.                         |
|     |            | <ul> <li>Government organization nor is any litigation pending in this regard.</li> <li>The documents/photocopies provided with Bid are authentic. In case of any fake/bogus</li> </ul>        |
|     |            | • Bidder is neither currently blacklisted or debarred from any government / semi-  |

#### F. Bid Evaluation Criteria

|              | r. diu Evai   | uation       | i Cinteina   |  |  |
|--------------|---|--------------|--|--|--|
| 1. Ev        | valuation Criteria  |              |  |  |  |
| ITB<br>2.5.8 | <b>Criteria for bid evaluation:</b> Lowest Delivered Duty Paid (DDP) Total Price package wise offered by the qualified responsive bidder.   |              |  |  |  |
|              | A- Mandatory Criteria<br>As per Qualification Criteria given ab   | ove/ Ki      | nock down criteria   |  |  |
|              | B- Marking Criteria   |              |  |  |  |
| Sec.#        | Description   | Max<br>Marks | Marks Allocation   |  |  |
| 1            | Company Profile, Experience etc.  | (35)         |  |  |  |
|              | Experience in years / Market Existence<br>From the date of NTN Registration<br>(NTN Certificate must be attached)   | 10           | Less than 5 years= 0 marks<br>5 years= 6 marks<br>1 Marks per year above 5 years<br>(Maximum 10 Marks) |  |  |
| ii.          | Value of Projects in public sector<br>Cost of Supply/ Installation having similar nature &<br>of value 10 million or above over last 05 years in<br>public sector.<br>(Purchase orders OR supply orders OR<br>completion certificates must be attached,<br>otherwise, no marks shall be awarded.) | 15           | 03 marks Per Project/ supply<br>(Maximum 15 Marks)   |  |  |
|              | Relevant Experience   | 10           | 02 marks Per Project/ supply<br>(Maximum 10 Marks)   |  |  |

|       | Experience of Supply / Installation having similar<br>nature over last 05 years (5 supplies max.)<br>(Purchase orders OR supply orders OR<br>completion certificates must be attached,<br>otherwise, no marks shall be awarded.) |         |   |
|-------|--|---------|---|
| 2     | Financial Position   | (30)    |   |
| i.    | Sum of Annual Sales /Annual Turnover (Last five<br>years)<br>(Signed and stamped statement along with tax<br>return last 05 years (2018, 2019, 2020, 2021 &<br>2022) must be attached, otherwise, no marks<br>shall be awarded.) | 15      | 30+ to 60 Million       3 Marks         60+ to 90 Million       6 Marks         90+ to 120 Million       9 Marks         120+ to 150 Million       12 Marks         Above 150 Million       15 Marks         (Maximum 15 Marks)   |
| ii.   | Fixed Assets (Current)<br>(Documentary proof of tax return required)   | 05      | 1.0 to 5.0 Million2 Marks5.0 + to 10 Million4 MarksAbove 10 Million5 Marks(Maximum 05 Marks)  |
| iii.  | <b>Tax Return</b><br>Active Tax Payer for Financial Year<br>2018, 2019, 2020, 2021 & 2022.   | 05      | 1 Mark per year<br>(Maximum 05 Marks)   |
| iv.   | Bank Balance / Credit Limit<br>If bank balance / credit limit up-to June, 2023- is<br>equal to 10 Million or more, full marks may be<br>awarded.   |         | Otherwise, the marks may be awarded as:<br><u>Closing Balance or Credit Limit</u> x 05<br>10 million  |
| 3.    | Set up for Provision of After Sale Service<br>(Certificate must be attached and Address,<br>telephone and e-mail be provided)  | (05)    | Certificate provided 05 Marks<br>Certificate not provided 0 Marks<br>(Maximum 05 Marks)   |
| 4.    | HR, Infrastructure & Satisfactory Supply proof   | (15)    |   |
| i     | HR/ Staff Strength (Payroll of-June 2023)<br>Technical Staff (Diploma / Degree holder)<br>List of Staff along with qualification must be<br>attached and related final degree/ diploma/<br>transcripts.                          | 10      | 1.5 Marks per 16-year degree holder max=06<br>1 mark for Diploma max=04<br>(Maximum 10 Marks)   |
| ii    | Letter of Satisfaction after sale service by the<br>client who has purchase of minimum 05 million<br>Please attach satisfaction/ appreciation letter<br>(In case of missing information, no mark may<br>be awarded.)             | 05      | 01 mark for each certificate<br>( <b>Maximum 05 marks</b> )   |
| 5     | <ul> <li>Company Presentation &amp; Product<br/>Demonstration= (10)</li> <li>Repair and Maintenance Facilities<br/>Demonstration (05)</li> <li>(Must provide videos for both in USB)</li> </ul>                                  | (15)    | To be assigned by the Technical Committee<br>(Bidder is required to give demonstration of quoted<br>products and have the capability to Repair and<br>Maintenance the products for 5 years, in soft form in<br>USB duly sealed. Evaluation committee may demand<br>physical demonstration |
|       | TOTAL MARKS  | (100)   |   |
| Noto: | Supporting documents (where domended) must be  | ttaahad | otherwise no marks would be awarded. The successful   |

**Note:** Supporting documents (where demanded) must be attached otherwise no marks would be awarded. The successful bidder will have to give the demonstration of quoted items at PUT Rasul. Qualifying Marks 50% in each section is mandatory

Minimum 65% marks are mandatory in this stage.

#### G. Award of Contract

| 2.6.5 | Percentage for quantity increase or decrease is: 15%  |
|-------|---|
| 2.6.2 | The Performance Guarantee shall be: ten percent (10%) of the contract amount                        |
| 2.6.2 | The Performance Security (or guarantee) shall be in the form of: CDR or Bank Guarantee in favour of |
|       | Punjab University of Technology Rasul valid for warranty period.                                    |

# Section V. General Conditions of Contract

|              | Secti                 | UII  | <b>V</b> •                      | General Conditions of Contract  |
|--------------|-----------------------|------|---------------------------------|---|
| 1.           | Definitions           | 1.1  | In thi                          | s Contract, the following terms shall be interpreted as indicated:  |
|              |                       |      | (a)                             | "The Contract" means the agreement entered into between the<br>Procuring Agency and the Supplier, as recorded in the Contract<br>Form signed by the parties, including all attachments and<br>appendices thereto and all documents incorporated by reference<br>therein.  |
|              |                       |      | (b)                             | "The Contract Price" means the price payable to the Supplier under<br>the Contract for the full and proper performance of its contractual<br>obligations.   |
|              |                       |      | (c)                             | "The Goods" means all the equipment, machinery, and/or other<br>materials which the Supplier is required to supply to the Procuring<br>Agency under the Contract.   |
|              |                       |      | (d)                             | "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.   |
|              |                       |      | (e)                             | "GCC" means the General Conditions of Contract contained in this section.   |
|              |                       |      | (f)                             | "SCC" means the Special Conditions of Contract.   |
|              |                       |      | (g)                             | "The Procuring Agency" means the organization purchasing the Goods, as named in SCC.  |
|              |                       |      | (h)                             | "The Procuring Agency's country" is Islamic Republic of Pakistan.   |
|              |                       |      | (i)                             | "The Supplier" means the individual or firm supplying the Goods<br>and Services under this Contract.  |
|              |                       |      | (j)                             | "The Project Site," where applicable, means the place or places<br>mentioned in the Form of Bid   |
|              |                       |      | (k)                             | "Day" means calendar day.   |
| 2.           | Application           | 2.1  |                                 | e General Conditions shall apply to the extent that they are not superseded ovisions of other parts of the Contract.  |
| 3.           | Country of<br>Origin  | 3.1  |                                 | oods and Services supplied under the Contract shall have their origin in the tries and territories eligible under the rules, as further elaborated in the SCC.  |
|              |                       | 3.2  | mine<br>produ<br>assen<br>subst | burposes of this Clause, "origin" means the place where the Goods were<br>d, grown, or produced, or from which the Services are supplied. Goods are<br>uced when, through manufacturing, processing, or substantial and major<br>ably of components, a commercially recognized new product results that is<br>antially different in basic characteristics or in purpose or utility from its<br>ponents. |
|              |                       | 3.3  | The c                           | origin of Goods and Services is distinct from the nationality of the Supplier.  |
| <b>3</b> a.  | One person<br>one bid | 3.4  | one b                           | y procurement, one bidder may submit one bid of a specific package and if<br>idder submits more than one bids of the same package, the procuring agency<br>reject all such bids. However, one bidder may bid for one or more packages.  |
| <b>4.</b> St | tandards              | 4.1. |                                 | Goods supplied under this Contract shall conform to the standards ioned in the Technical Specifications, and, when no applicable standard is  |
| ı            |                       |      |                                 | · / / · · · · · · · · · · · · · · · · ·   |

|    |  |     | mentioned, to the authoritative standards appropriate to the Goods' country of origin. Such standards shall be the latest issued by the concerned institution.  |
|----|--|-----|---|
| 5. | Use of<br>Contract<br>Documents<br>and<br>Information;<br>Inspection | 5.1 | The Supplier shall not, without the Procuring Agency's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring Agency in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance. |
|    | and Audit by<br>the31<br>Procuring                                   | 5.2 | The Supplier shall not, without the Procuring Agency's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.  |
|    | agency.  | 5.3 | Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring Agency and shall be returned (all copies) to the Procuring Agency on completion of the Supplier's performance under the Contract if so required by the Procuring Agency.  |
|    |  | 5.4 | The Supplier shall permit the Procuring Agency to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the donors, if so required by the donors.   |
| 6. | Patent Rights  | 6.1 | The Supplier shall indemnify the Procuring Agency against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring Agency's country.   |
| 7. | Performance<br>Guarantee   | 7.1 | Within seven (07) days of receipt of letter of intent/ notification of contract award, the successful Bidder shall furnish to the Procuring Agency the performance guarantee in the amount specified in SCC/ BDS & clause 2.6.2 of ITB.   |
|    |  | 7.2 | The proceeds of the performance guarantee shall be payable to the Procuring<br>Agency as compensation for any loss resulting from the Supplier's failure to<br>complete its obligations under the Contract.   |
|    |  | 7.3 | The performance guarantee shall be denominated in the currency of the Contract acceptable to the Procuring Agency and shall be in one of the following forms:   |
|    |  |     | (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in Pakistan, in the form provided in the Bidding documents or another form acceptable to the Procuring Agency; or  |
|    |  |     | (b) a Bank Guarantee or Bank call-deposit (CDR),  |
|    |  |     | (c) In case of expiry of performance guarantee, the contractor shall<br>renew the performance guarantee valid for warranty period, if<br>required by the procuring agency   |
|    |  | 7.4 | The performance guarantee will be discharged by the Procuring Agency and<br>returned to the Supplier not later than thirty (30) days following the date of<br>completion of the Supplier's performance obligations under the Contract,<br>including any warranty obligations, unless specified otherwise in SCC.  |
| 8. | Inspections<br>and Tests   | 8.1 | The Procuring Agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring Agency. <b>SCC and the Technical Specifications</b> shall specify what inspections and tests the Procuring Agency requires and where they are to be conducted. The Procuring Agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.                  |

|       |                           | 8.2<br>8.3 | The inspections and tests may be conducted on the premises of the Supplier or<br>its subcontractor(s), at point of delivery, and/or at the Goods' final destination.<br>If conducted on the premises of the Supplier or its subcontractor(s), all<br>reasonable facilities and assistance, including access to drawings and production<br>data, shall be furnished to the inspectors at no charge to the Procuring Agency.<br>Should any inspected or tested Goods fail to conform to the Specifications, the<br>Procuring Agency may reject the Goods, and the Supplier shall either replace the<br>rejected Goods or make alterations necessary to meet specification requirements<br>free of cost to the Procuring Agency. |
|-------|---------------------------|------------|---|
|       |                           | 8.4        | The Procuring Agency post-delivery right to inspect, test and, where necessary, reject the goods after the Goods' arrival in the Procuring Agency's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Procuring Agency or its representative prior to the Goods' shipment from the country of origin.   |
|       |                           | 8.5        | Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.   |
| 9.    | Packing                   | 9.1        | The Supplier shall provide such packing of the Goods as is required to prevent<br>their damage or deterioration during transit to their final destination, as indicated<br>in the Contract. The packing shall be sufficient to withstand, without limitation,<br>rough handling during transit and exposure to extreme temperatures, salt and<br>precipitation during transit, and open storage. Packing case size and weights shall<br>take into consideration, where appropriate, the remoteness of the Goods' final<br>destination and the absence of heavy handling facilities at all points in transit.  |
|       |                           | 9.2        | The packing, marking, and documentation within and outside the packages shall<br>comply strictly with such special requirements as shall be expressly provided for<br>in the Contract, including additional requirements, if any, specified in SCC, and<br>in any subsequent instructions ordered by the Procuring Agency.  |
| 10.   | Delivery and<br>Documents | 10.1       | Delivery of the Goods shall be made by the Supplier in accordance with the Form of bid. The details of delivery and/or other documents to be furnished by the Supplier are specified in SCC 5.  |
|       |                           | 10.2       | The contractor will be responsible for delivery, installation & commissioning (if any) as per procurement order in safe, sound and in operational condition at its own risk & cost as per delivery schedule mentioned in <i>"bid data sheet"</i> after issuance of procurement order. Delivery period can be extended by the Procuring Agency on the written request of the contractor, giving compelling reasons for delay in delivery.  |
|       |                           |            | For purposes of the Contract, DDP trade term used to describe the obligations<br>of the parties shall have the meanings assigned to them by the current edition of<br>Incoterms<br>. Documents to be submitted by the Supplier are specified in SCC.  |
| 11.   | Insurance                 | 11.1       | The Goods supplied under the Contract shall be delivered duty paid (DDP) under<br>which risk is transferred to the buyer after having been delivered, hence<br>insurance coverage is seller's responsibility.   |
| 12. T | ransportation             | 12.1       | The Supplier is required under the Contact to transport the Goods to a specified place of destination within the Procuring Agency's country, transport to such place of destination in the Procuring Agency's country, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.  |
| 13.   | Incidental<br>Services    |            | <ul> <li>The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:</li> <li>(a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;</li> </ul>   |
| L     |                           |            |   |

|                 | (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;  |
|-----------------|--|
|                 | (c) furnishing of a detailed operations and maintenance manual in <b>English</b> for each appropriate unit of the supplied Goods;  |
|                 | <ul> <li>(d) In case of specialized items, supplier will provide necessary training to the PUT Rasul staff / faculty free of cost on-site, in assembly, start-up, operation, maintenance, and repair of the supplied Goods. The terms and conditions for such training, may however, be mutually decided between the PUT Rasul and the successful bidders, if so required.</li> </ul>  |
|                 | <ul> <li>13.2. Prices charged by the Supplier for incidental services shall be included in the Contract Price for the Goods and shall not exceed:</li> <li>(i) the prevailing rates charged for other parties by the Supplier for similar services; and</li> <li>(ii) original price of goods.</li> </ul>  |
| 14. Spare Parts | 14.1 The Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:  |
|                 | <ul> <li>(a) such spare parts as the Procuring Agency may elect to purchase<br/>from the Supplier, provided that this election shall not relieve the<br/>Supplier of any warranty obligations under the Contract; and</li> </ul>   |
|                 | (b) in the event of termination of production of the spare parts:  |
|                 | <ul> <li>(i) advance notification to the Procuring Agency of the pending<br/>termination, in sufficient time to permit the Procuring Agency to<br/>procure needed requirements; and</li> </ul>   |
|                 | <ul> <li>(ii) following such termination, furnishing at no cost to the Procuring<br/>Agency, the blueprints, drawings, and specifications of the spare<br/>parts, if requested.</li> </ul>   |
|                 | 14.2 Lowest evaluated bidder must provide spare parts of the supplied items at market rate at any time after warranty period as per requirement of Procuring Agency.   |
| 15. Warranty    | 15.1 The Supplier warrants that the Goods supplied under the Contract are new,<br>unused, The Supplier further warrants that all Goods supplied under this Contract<br>shall have no defect, arising from design, materials, or workmanship (except<br>when the design and/or material is required by the Procuring Agency's<br>specifications) or from any act or omission of the Supplier, that may develop<br>under normal use of the supplied Goods in the conditions prevailing in the<br>country of final destination. |
|                 | 15.2 Bidders must provide <b>one-year free</b> comprehensive onsite warranty, which must include labor, parts replacement and any other related service. Warranty period will be started after completion of scope of work.  |
|                 | 15.3 The Procuring Agency shall promptly notify the Supplier in writing of any claims arising under this warranty.   |
|                 | 15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Procuring Agency.   |
|                 | 15.5 If the Supplier, having been notified, fails to rectify the defect(s) within the period specified in SCC, within a reasonable period, the Procuring Agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring   |

|     |  |       | Agency may have against the Supplier under the Contract/ relevant provision of PPA-14 including Blacklisting.  |
|-----|--|-------|--|
| 16. | Payment                                    | 16.1  | The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.   |
|     |  | 16.2  | The Supplier's request(s) for payment shall be made to the Procuring Agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to SCC Clause 12, and upon fulfillment of other obligations stipulated in the Contract.  |
|     |  | 16.3  | The currency of payment is Pak. Rupees.  |
| 17. | Prices                                     | 17.1  | Prices charged by the Supplier for Goods delivered and Services performed<br>under the Contract shall not vary from the prices quoted by the Supplier in its<br>bid, with the exception of any price adjustments authorized in SCC or in the<br>Procuring Agency's request for bid validity extension, as the case may be.   |
| 18. | Change<br>Orders                           | 18.1  | The Procuring Agency may at any time, by a written order given to the Supplier,<br>make changes within the general scope of the Contract in any one or more of the<br>following:   |
|     |  |       | <ul> <li>(a) drawings, designs, or specifications, where Goods to be furnished<br/>under the Contract are to be specifically manufactured for the<br/>Procuring Agency;</li> </ul>   |
|     |  |       | (b) the method of shipment or packing;   |
|     |  |       | (c) the place of delivery; and/or  |
|     |  |       | (d) the Services to be provided by the Supplier.   |
|     |  | 18.2. | If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Procuring Agency's change order. But, in no case, the overall impact of the change should exceed 15% of the contract cost and no provisions of PPR-14 should be violated. |
| 19. | Contract<br>Amendments                     | 19.1  | No variation in or modification of the terms of the Contract shall be made except<br>by written amendment signed by the parties. No variation in finalized brands/<br>makes/models shall be allowed except in special conditions where the<br>manufacturer has stopped producing or suspended that model or the latest model<br>of similar series or version has been launched by the manufacturer or non-<br>availability due to international mergers of the manufacturers or similar<br>unavoidable constraints.  |
| 20. | Assignment                                 | 20.1  | The Supplier shall not assign, in whole or in part, its obligations to perform under<br>this Contract, except with the Procuring Agency's prior written consent.   |
| 21. | Sub-contracts                              | 21.1  | If supplier awarded sub-contracts, such award shall not relieve the Supplier from<br>any liability or obligation under the Contract.   |
|     |  | 21.2. | Subcontracts must comply with the provisions of GCC Clause 20.   |
| 22. | Delays in the<br>Supplier's<br>Performance | 22.1  | Delivery of the Goods and performance of services shall be made by the Supplier<br>in accordance with the time schedule prescribed by the Procuring Agency in the<br>Schedule of Requirements.   |
|     |  | 22.2  | If at any time during performance of the Contract, the Supplier or its subcontractor(s) encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Procuring Agency in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Procuring Agency   |

|     |                            | shall evaluate the situation and may at its discretion extend the Supplier's time<br>for performance, with or without liquidated damages, in which case the extension<br>shall be ratified by the parties by amendment of Contract.  |  |
|-----|----------------------------|--|--|
|     |                            | 22.3 Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.  |  |
| 23. | Liquidated<br>Damages      | 23.1 Subject to the Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to GCC Clause 24 along with other remedies available under PPR-14.  |  |
| 24. | Termination<br>for Default | 24.1 The Procuring Agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:   |  |
|     |                            | <ul> <li>(a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract / bidding documents, or within any extension thereof granted by the Procuring Agency pursuant to GCC Clause 22; or</li> </ul>   |  |
|     |                            | (b) if the Supplier fails to perform any other obligation(s) under the Contract.   |  |
|     |                            | <ul><li>(c) if the Supplier, in the judgment of the Procuring Agency has engaged in<br/>corrupt or fraudulent practices in competing for or in executing the<br/>Contract.</li></ul>   |  |
|     |                            | For the purpose of this clause:  |  |
|     |                            | <ul> <li>(d) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official, bidder or Contractor in the procurement process or in Contract execution to the detriment of the procuring agency; or misrepresentation of facts in order to influence a procurement process or the execution of a Contract, collusive practices among bidders (prior to or after bid submission) designed to establish bid prices at artificial, noncompetitive levels and to deprive the procuring agency of the benefits of free and open competition and any request for, or solicitation of anything of value by any public official in the course of the exercise of his duty; it may include any of the following:</li> </ul> |  |
|     |                            | i. coercive practice by impairing or harming, or threatening to impair or<br>harm, directly or indirectly, any party or the property of the party to<br>influence the actions of a party to achieve a wrongful gain or to cause<br>a wrongful loss to another party;   |  |
|     |                            | ii. collusive practice by arrangement between two or more parties to the procurement process or Contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;  |  |

|                                   |   | giving, receiving or soliciting, directly or indirectly, of<br>g of value to influence the acts of another party for wrongful  |
|-----------------------------------|---|--|
|                                   | reckless  | or omission, including a misrepresentation, that knowingly or<br>ly misleads, or attempts to mislead, a party to obtain a<br>l or other benefit or to avoid an obligation;   |
|                                   | indirectl<br>procurer<br>delibera<br>material<br>investig<br>allegatio<br>threaten<br>disclosin<br>pursuing | ive practice by harming or threatening to harm, directly or<br>y, persons or their property to influence their participation in a<br>nent process, or affect the execution of a Contract or<br>tely destroying, falsifying, altering or concealing of evidence<br>to the investigation or making false statements before<br>ators in order to materially impede an investigation into<br>ons of a corrupt, fraudulent, coercive or collusive practice; or<br>ing, harassing or intimidating any party to prevent it from<br>ng its knowledge of matters relevant to the investigation or from<br>g the investigation, or acts intended to materially impede the<br>of inspection and audit process |
|                                   | Principa<br>of issuar<br>supplier<br>order an<br>by the   | tractor may inform the date of placement of order to the foreign 1/manufacturer, in case of items to be imported within 15 days nee of purchase order, if required by the Procuring Agency. If fails to place order within 15 days of the issuance of purchase d does not provide the aforementioned information (if required Procuring Agency), the contract may be considered for ion or cancellation.   |
|                                   | On the happ<br>forfeited.   | bening of any of the above event, the performance guarantee will be  |
|                                   | pursuant to<br>terms and i<br>those undel<br>any excess   | t the Procuring Agency terminates the Contract in whole or in part,<br>GCC Clause 24.1, the Procuring Agency may procure, upon such<br>in such manner as it deems appropriate, Goods or Services similar to<br>ivered, and the Supplier shall be liable to the Procuring Agency for<br>costs for such similar Goods or Services. However, the Supplier shall<br>rformance of the Contract to the extent not terminated.  |
| 25. Force<br>Majeure              | not be liabl termination  | nding the provisions of GCC Clauses 22, 23, and 24, the Supplier shall<br>e for forfeiture of its performance guarantee, liquidated damages, or<br>for default if and to the extent that its delay in performance or other<br>erform its obligations under the Contract is the result of an event of<br>ure.   |
|                                   |   | es of this clause, "Force Majeure" means wars or revolutions, fires,<br>lemics, quarantine restrictions, and freight embargoes etc.  |
|                                   | Procuring A<br>otherwise of<br>continue to<br>practical, a  | Majeure situation arises, the Supplier shall promptly notify the<br>Agency in writing of such condition and the cause thereof. Unless<br>directed by the Procuring Agency in writing, the Supplier shall<br>perform its obligations under the Contract as far as is reasonably<br>nd shall seek all reasonable alternative means for performance not<br>y the Force Majeure event.   |
|                                   |   | ng agency may extend the delivery period in case of force majeure<br>nout imposing penalty.  |
| 26. Termination<br>for Insolvency | notice to th  | ng Agency may at any time terminate the Contract by giving written<br>e Supplier if the Supplier becomes bankrupt or otherwise insolvent.<br>t, termination will be without compensation to the Supplier, provided   |

|     |                                   | that such termination will not prejudice or affect any right of action or remedy<br>which has accrued or will accrue thereafter to the Procuring Agency.   |  |
|-----|-----------------------------------|--|--|
| 27. | Termination<br>for<br>Convenience | <ul> <li>27.1 The Procuring Agency, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Procuring Agency's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.</li> <li>27.2 The Goods that are complete and ready for shipment within thirty (30) days after the Supplier's receipt of notice of termination shall be accepted by the Procuring Agency at the Contract terms and prices. For the remaining Goods, the Procuring Agency may elect:</li> </ul> |  |
|     |                                   | (a) to have any portion completed and delivered at the Contract terms and prices; and/or   |  |
|     |                                   | (b) to cancel the remainder and pay to the Supplier an agreed amount<br>for partially completed Goods and Services and for materials and<br>parts previously procured by the Supplier.   |  |
| 28. | Resolution of<br>Disputes         | 28.1 The Procuring Agency and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.   |  |
|     |                                   | 28.2 If, after thirty (30) days from the commencement of such informal negotiations, the Procuring Agency and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed and/or arbitration as per rule 68 of PPR-14 and in accordance with Arbitration Act-1940.  |  |
| 29. | Governing<br>Language             | 29.1 The Contract shall be written in the language specified in SCC. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.   |  |
| 30. | Applicable<br>Law                 | 30.1 The Contract shall be interpreted in accordance with the laws of Punjab (Pakistan) unless otherwise specified in SCC.   |  |
| 31. | Notices                           | 31.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by e-mail and confirmed in writing to the other party's address specified in SCC.   |  |
|     |                                   | 31.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.   |  |
| 32. | Taxes and<br>Duties               | 32.1 Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Procuring Agency.  |  |
| 33. | Provision of<br>Sample            | 33.1 The procuring agency can demand sample of any good for checking the performance and quality of the machinery / equipment. On satisfactory performance of the sample, the bidder will be responsible for delivery of the same. In case performance or quality of the sample is not satisfactory the procuring agency can reject the same and the bid will be technically dis-qualified.  |  |
| 34. | Repeat Order                      | 34.1 The contractor may provide Machinery & Equipment on repeat order (not exceeding 15% of the original procurement order) under the provision of Punjab Procurement Rules 2014, if asked for.  |  |
|     |                                   |  |  |

# Section VI. Special Conditions of Contract

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

| 1.    | Definitions (GCC<br>Clause 1)                | GCC 1.1 (g)The Procuring Agency is: Punjab University of Technology RasulGCC 1.1 (h)The Procuring Agency's country is: Islamic Republic of PakistanGCC 1.1 (i)The Supplier is: [Bidder to provide detail here]   |
|-------|--|--|
|       |  | GCC 1.1 (j) The Project Site is: PUT Rasul, 13km Sarai Alamgir Road, Mandi Bahauddin.  |
| 2.    | Country of<br>Origin                         | GCC Clause 3 All countries except India & Israel   |
| 3.    | Performance<br>guarantee (GCC<br>Clause 7)   | 3.1 The amount of performance guarantee, as a percentage of the Contract Price, shall be 10% (Ten per cent of the contract price) in the shape of non-recourse, irrevocable and unconditional bank guarantee or any form as per GCC 7 from scheduled bank of Pakistan on the prescribed format attached with the bidding document.   |
| 4.    | Inspections and<br>Tests (GCC<br>Clause 8)   | <ul> <li>4.1 Pre-delivery / Post-delivery Inspection will be arranged at PUT Rasul. The acceptance parameters are as following: <ol> <li>Confirming to the contractual specifications of items</li> <li>Satisfactory performance of functional test of the equipment</li> <li>Proper test report will be prepared with functional compliance and physical attributes of Equipment, if conducted</li> </ol> </li> </ul>   |
| 5. Pa | acking (GCC<br>Clause 9)                     | Packing should ensure safe and sound delivery at site.   |
| 6.    | Delivery and<br>Documents (GCC<br>Clause 10) | <ul> <li>6.1 Upon delivery, the Supplier shall provide the following documents to the Procuring Agency: <ul> <li>(i) copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;</li> <li>(ii) original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;</li> <li>(iii) copies of the packing list identifying contents of each package;</li> <li>(iv) Manufacturer's or Supplier's warranty certificate;</li> <li>(v) Manufacturer's or Supplier's factory inspection report (Inspection type depends on the nature of procurement and volume of procurement); and</li> <li>(vii) Certificate of origin.</li> <li>Note: The above documents at Sr.# (i) would be required even if the equipment has already been imported and is available with the supplier exstock.</li> </ul> </li> </ul> |
| 7.    | Insurance (GCC<br>Clause 11)                 | 7.1 The Goods supplied under the Contract shall be Delivered Duty Paid (DDP) under which risk is transferred to the Buyer after having been delivered. Hence insurance coverage is seller's responsibility. Since the Insurance is seller's responsibility, they may arrange appropriate coverage.   |
| 8.    | Incidental<br>Services (GCC<br>Clause 13)    | <ul> <li>8.1 Incidental services to be provided are:</li> <li>a. At site complete training of Procuring Agency's nominated staff free of cost regarding maintenance and operation of Goods (if required by Procuring Agency).</li> </ul>   |

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|                                    | b. At site preventive maintenance on quarterly basis by the bidder's qualified   |  |
|------------------------------------|--|--|
|                                    | staff for one year, without extra cost, starting from final acceptance of goods.   |  |
| 9. Spare Parts                     | GCC 14.1 Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the Goods. Other spare parts and components shall be supplied as promptly as possible, but in any case, within seven (7) days for local and within two (2) months for foreign be supplied of placing the order and opening the letter of credit.   |  |
| 10. Warranty (GCC<br>Clause 15)    | 10.1 In accordance with the provisions, the warranty period shall be <b>12 months</b> (parts and labor warranty etc.) from date of Final Acceptance of the Goods. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, at its discretion, either: |  |
|                                    | (a) Make such changes, modifications, and/or additions to the Goods or any<br>part thereof as may be necessary in order to attain the contractual<br>guarantees specified in the Contract at its own cost and expense and to<br>carry out further performance tests in accordance with SCC 4,  |  |
|                                    | or   |  |
|                                    | (b) Pay liquidated damages to the Procuring Agency with respect to the failure<br>to meet the contractual guarantees. The rate of these liquidated damages<br>shall be 0.2 % of the late delivered goods per day. The maximum amount<br>of liquidated damages for the whole of the goods or part thereof shall be<br>10% of the contract price.  |  |
|                                    | Or   |  |
|                                    | (c) Replacement of the whole unit at site including transportation, installation, testing & commissioning etc. in case of major defect at his own cost.  |  |
|                                    | GCC 15.4 & 15.5—the period for correction of defects in the warranty period is 7 days.   |  |
| 11. Sample Provision               | 11.1 GCC 33.1 "Samples of any good(s) be provided for demonstration by the supplier on his own cost on the demand of technical evaluation committee".  |  |
| 12. Payment (GCC<br>Clause 16)     | 12.1 GCC 16.1-The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:   |  |
|                                    | Payment in Pak Rupees will be made through cross cheque after delivery, installation and commissioning of the machinery/ equipment after inspection at PUT Rasul. The contractor shall provide all necessary supporting documents along with invoice for payment.  |  |
| 13. Taxes (GCC<br>Clause 32)       | <ul><li>13.1 PUT Rasul shall deduct all applicable taxes at the prevailing rate prescribed by the Govt., from all payments submitted by the contractor. Change in the rate of tax announced by the Govt. from time to time will be applicable for the purpose of deduction of tax.</li></ul>   |  |
| 14. Prices (GCC                    | 14.1 Prices shall be: Fixed and shall not be adjusted.   |  |
| Clause 17)<br>15. Liquidated       | 15.1 GCC 23.1-Applicable rate: 0.2 % of late delivered goods per day   |  |
| Damages (GCC<br>Clause 23)         | 15.2 Maximum deduction: 10 % of contract price   |  |
| 16. Resolution of<br>Disputes (GCC | 16.1 The dispute resolution mechanism to be applied pursuant to GCC Clause 28.2 shall be as follows:   |  |
| Clause 28)                         | In the case of a dispute between the Procuring Agency and the Supplier, the dispute shall be referred to conciliation mediated by a third party, adjudication or arbitration in accordance with the Pakistan Arbitration Act, 1940.  |  |

| 17.  | Governing<br>Language (GCC        | 14.1   | The Governing Language shall be: English.   |
|--|-----------------------------------|--|---|
|  | Clause 29)                        |  |   |
| 18.  | Applicable Law<br>(GCC Clause 30) | 18.1   | The procurement process will be governed under Punjab Procurement Rules – 2014 or latest. The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan which includes the following legislation:   |
|  |                                   |  | a. The Contract Act 1872.   |
|  |                                   |  | b. The Arbitration Act 1940   |
| 19.  | Change of Model                   | 19.1   | In case of end of manufacturing of quoted model at the time of delivery, latest / upgraded model of same brand fulfilling all specifications of quoted model may be accepted on the recommendations of relevant technical expert (s) with the approval of Procurement Committee. However, contractor has to provide all necessary documents pertaining to end of quoted model for the satisfaction of procuring agency / Committee. |
| 20.  | Notices (GCC                      | 20.1   | Procuring Agency's address for notice purposes:   |
|  | Clause 31)                        |  | Office of Convener, Procurement Committee,  |
| Punjab University of Technology Rasul, 13km, Sarai Alamgir R<br>Bahauddin. |                                   | Punjab University of Technology Rasul, 13km, Sarai Alamgir Road, Mandi<br>Bahauddin. |   |
|  |                                   |  | Tel: 0546-553216 Tel: 0546-553354   |
|  |                                   | 20.2   | Supplier's address for notice purposes:   |
|  |                                   | Pleas  | e provide:  |
|  |                                   |  |   |

# Section VII. Schedule of Requirements

# 7.1 Schedule of Requirements

The delivery schedule expressed as weeks/months stipulates a delivery date which is the date at which delivery is required. Number Description

#### Quantity **Delivery schedule** (shipment)

#### In 90 days from date of signing contract

In order to determine the correct date of delivery hereafter specified, the Procuring Agency has taken into account the additional time that will be needed for international or national transit to the Project Site or to another common place.

#### **Electrical Machines Lab**

| S.# | Description   | Quantity | Delivery schedule<br>(shipment) in days |
|-----|---|----------|---|
| 1   | Frequency Meters 400V,40-60 Hz<br>Specifications as per Purchase Order/ Supply Order  | 1        | 90 days                                 |
| 2   | Frequency Meter (digital), 400V,40, 60Hz<br>Specifications as per Purchase Order/ Supply Order                                  | 4        | 90 days                                 |
| 3   | Power Factor Meter 400V, SA<br>Specifications as per Purchase Order/ Supply Order   | 12       | 90 days                                 |
| 4   | Synchro scope 400V,5A<br>Specifications as per Purchase Order/ Supply Order   | 4        | 90 days                                 |
| 5   | Phase Sequence Indicator, 3- phase,400V<br>Specifications as per Purchase Order/ Supply Order                                   | 4        | 90 days                                 |
| 6   | Bench Digital Multi-meters<br>Specifications as per Purchase Order/ Supply Order  | 12       | 90 days                                 |
| 7   | Motor-Gen. Set,<br>Specifications as per Purchase Order/ Supply Order   | 12       | 90 days                                 |
| 8   | <b>Power Supply Unit for Motor Generator sets,</b><br>Specifications as per Purchase Order/ Supply Order                        | 12       | 90 days                                 |
| 9   | <b>Torque, speed and Power Measuring Units</b><br>Specifications as per Purchase Order/ Supply Order                            | 12       | 90 days                                 |
| 10  | Single phase transformer 500V A<br>Specifications as per Purchase Order/ Supply Order   | 12       | 90 days                                 |
| 11  | Three phase transformer 1500V A<br>Specifications as per Purchase Order/ Supply Order   | 12       | 90 days                                 |
| 12  | Transformer construction kit<br>Specifications as per Purchase Order/ Supply Order  | 2        | 90 days                                 |
| 13  | Motor construction kit<br>Specifications as per Purchase Order/ Supply Order  | 2        | 90 days                                 |
| 14  | LRC Bridge<br>Specifications as per Purchase Order/ Supply Order  | 2        | 90 days                                 |
| 15  | LRC Meters<br>Specifications as per Purchase Order/ Supply Order  | 2        | 90 days                                 |
| 16  | Connecting Leads/Wires, Different sizes,<br>Specifications as per Purchase Order/ Supply Order                                  | 100      | 90 days                                 |
| 17  | Experiment Tables<br>Specifications as per Purchase Order/ Supply Order   | 8        | 90 days                                 |
| 19  | Contingencies (components, cables etc.) one set Misc. accessories / parts<br>Specifications as per Purchase Order/ Supply Order | 1        | 90 days                                 |
| 20  | Motor Generator/ Cutaway<br>Specifications as per Purchase Order/ Supply Order  | 1        | 90 days                                 |
| 21  | Alternator & Parallel Operation Experiment System<br>Specifications as per Purchase Order/ Supply Order                         | 1        | 90 days                                 |
| 22  | Centrifugal Switch Start Single Phase Induction Motor<br>Specifications as per Purchase Order/ Supply Order                     | 1        | 90 days                                 |
| 23  | Universal Motor<br>Specifications as per Purchase Order/ Supply Order   | 1        | 90 days                                 |
| 24  | Reluctance Motor and Switched Reluctance Motors<br>Specifications as per Purchase Order/ Supply Order                           | 1        | 90 days                                 |
| 25  | Brushless DC Motor<br>Specifications as per Purchase Order/ Supply Order  | 1        | 90 days                                 |
| 26  | Electrical Machine Trainer<br>Specifications as per Purchase Order/ Supply Order  | 4        | 90 days                                 |
| 27  | Hystersesis Motor<br>Specifications as per Purchase Order/ Supply Order   | 6        | 90 days                                 |

<sup>&</sup>lt;sup>1</sup> The Procuring Agency must specify here the date from which the delivery schedule will start. That date should be either the date of contract award, or the date of contract signature, or the date of opening of letter of credit, or the date of confirmation of the Letter of Credit, as appropriate. The Bid Form should include only a cross-reference to this Schedule.

# **Section VIII. Sample Forms**

# 8.1. Bid Submission Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with the Technical Bid] No: Date:

## То

# Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents including Addenda Nos. \_\_\_\_\_\_ if any, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver full package (Equipments for Electrical Machines Lab) in conformity with the said bidding documents for the sum of [*total bid amount in words and figures* firm and final including all taxes etc] or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the **guarantee of a bank in a sum equivalent to 10% of the Contract Price** for the due performance of the Contract, in the form prescribed by the Procuring Agency.

We agree to a Bid by this Bid for bid for a period of 120 days from the date fixed from Bid opening under clause 2.3.8 of the Instructions to Bidder, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed (if required), this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

The Composition of our bid consists on separate Technical and financial bids, detail of which is as follows: **Technical bid includes the following:** 

- a) Complete bidding document (without filling) signed and stamped by the bidder
- b) All the forms relevant to the technical bid, to be reproduced on the letter head of the bidder as indicated on each individual form.
- *c)* Original Bid security form (as per **form 8.11**) along with Original financial instrument *[Bank Guarantee / Bank call-deposit (CDR)]* valid for **30 Days**, beyond the validity of Bid.
- d) Brochures of items quoted and other documents listed in check list. Relevant to technical bid.

# Financial bid includes the following:

- a) Original Bid form (as per **form 8.1 of** Bidding documents) on letter head of the firm, duly signed and stamped.
- b) Price schedule / financial form (as per **form 8.10**) to be reproduced on the letter head of the bidder duly signed and stamped.
- c) Copy of bid security form along with copy of financial instruments [Bank Guarantee / Bank calldeposit (CDR)] valid for **30 Days**, beyond the validity of Bid in the manner as prescribed on the bid security form **8.11**.
- d) Documents listed in check list relevant to financial bid.

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

| Name and address of goods provider | Amount (Rs.) |
|------------------------------------|--------------|
|                                    |              |
|                                    |              |
|                                    |              |
|                                    |              |

(If none, state none)

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this \_\_\_\_\_\_ day of \_\_\_\_\_\_ 20\_\_\_\_.

\_\_\_\_

[signature]

[in the capacity of]

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_

# 8.3. Manufacturer's/ Authorized Dealer's Authorization Form

[To be signed and stamped by the Bidder and to be attached with Technical Bid]

[See Clause 2.3.6 (iii) of the Instructions to Bidders.]

To:

# Convener, Procurement Committee, Punjab University of Technology Rasul.

WHEREAS [name of the Manufacturer/ Authorized Dealer], who are established and reputable manufacturers of [name and/or description of the goods] having factories at [address of factory] do hereby authorize [name and address of Agent] to submit a Bid, and subsequently negotiate and sign the Contract with you against for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation to Bids.

[Signature for and on behalf of Manufacturer/ Authorized Dealer]

Note: This letter of authority should be on the letterhead of the Manufacturer and should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should be included by the Bidder in its Bid.

# 8.4. Bidder Profile Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

| Sr.#                       | Particulars                      |  |
|----------------------------|----------------------------------|--|
| 1.                         | Name of the company:             |  |
| 2.                         | Registered Office:               |  |
| Address:                   |                                  |  |
| Office Telephone Numbe     | er:                              |  |
| Email:                     |                                  |  |
| 3.                         | Contact Person:                  |  |
| Name:                      |                                  |  |
| Personal Telephone Num     | nber:                            |  |
| Email Address: Email:      |                                  |  |
| 4.                         | Details of District wise offices |  |
| Address:                   |                                  |  |
| Office Telephone Number    | er:                              |  |
| Email:                     |                                  |  |
| Address:                   |                                  |  |
| Office Telephone Number    | er:                              |  |
| Email:                     |                                  |  |
| Address:                   |                                  |  |
| Office Telephone Number:// |                                  |  |
| Email:                     |                                  |  |
| 5.                         | Registration Details:            |  |
|                            |                                  |  |

a) Audited Financial Statement Attachment/Income Tax Returns (Last <u>05</u> years )

#### b) Details of Experience (Last <u>05</u> Years)

| (i)  | Supply of Similar nature & similar cost or above<br>(Agency/Department) | Item Name relevant to<br>package |
|------|---|----------------------------------|
|      | 1-  |                                  |
|      | 2-  |                                  |
|      | 3-  |                                  |
|      | 4-  |                                  |
|      | 5-  |                                  |
| (ii) | Value of total Projects/Tenders/Pos                                     | Amount (Rs. In Million)          |
|      | 1-  |                                  |
|      | 2-  |                                  |
|      | 3-  |                                  |
|      | 4-  |                                  |
|      | 5-  |                                  |

c) Staff Detail and last month Payroll with following detail duly signed and stamped

| S# | Name of Employee | Designation | Highest o | qualification | PEC Registration# | ŧ |
|----|------------------|-------------|-----------|---------------|-------------------|---|
|    |                  |             |           |               |                   |   |

- d) Total Annual Sales /Annual Turnover (last five years)
- e) Fixed Assets detail
- f) Bank balance / credit Limit
- g) detail of set up for provision of after sale service.

**h)** List of offices other than head office with Complete address, ownership / rent agreement, years of office established on the same place.

# 8.5. General Information Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

|                  | Particulars               |
|------------------|---------------------------|
| Company Name     |                           |
| Abbreviated Name |                           |
|                  |                           |
| National Tax No. | Sales Tax Registration No |
|                  |                           |
| PRA Tax No.      |                           |
| No. of Employees | Company's Date of         |
|                  | Formation                 |
|                  |                           |

\*Please attach copies of NTN, GST Registration & Professional Tax Certificate

| Registered Office | State/Province  |
|-------------------|-----------------|
| Address           |                 |
|                   |                 |
| City/Town         | Postal Code     |
|                   |                 |
| Phone             | Fax             |
|                   |                 |
| Email Address     | Website Address |
|                   |                 |

[To be printed on PKR 100 Stamp Paper, duly attested by oath commissioner. To be attached with Technical Bid]

## Name: \_

(Applicant)

I, the undersigned, do hereby certify that all the statements made in the Bidding document and in the supporting documents are true, correct and valid to the best of my knowledge and belief and may be verified by employer if the Employer, at any time, deems it necessary.

The undersigned hereby authorize and request the bank, person, company or corporation to furnish any additional information requested by the Punjab University of Technology Rasul of the Punjab deemed necessary to verify this statement regarding my (our) competence and general reputation.

The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the Punjab University of Technology Rasul. The undersigned further affirms on behalf of the firm that:

- (i) The firm is neither currently blacklisted by any Department nor any litigation is pending before PPRA or any other court of law competence in this regard against any such blacklisting order.
- (ii) The documents/photocopies provided with Bid are authentic. In case, any fake/bogus document was found at any stage, the firm shall be blacklisted as per Law/ Rules.
- (iii) Affidavit for correctness of information.
- (iv) Contractor/firm is not blacklisted or subject to any pending litigation with any Government or Public Department

[Name of the Contractor/Bidder/Supplier] undertakes to treat all information provided as confidential.

Signed by an authorized Officer of the company

Title of Officer:

Name of Company: \_\_\_\_\_

Date: \_\_\_\_\_

# 8.7. Performance Guarantee Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with contract documents]

To,

Convener, Purchase Committee,

Punjab University of Technology Rasul

WHEREAS [name of Supplier] (hereinafter called "the Supplier") has undertaken, in pursuance of "INVITATION TO BID FOR THE PROVISION/ INSTALLATION OF **Package No.** PUT/PMU/2023-24/16, "Equipments for Electrical Machines Lab" to supply [ (hereinafter called "the Contract"). Dated \_\_\_\_\_\_\_20\_\_\_\_\_

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a bank guarantee by a schedule bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of \_\_\_\_\_\_ [amount of the guarantee in words and figures], and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_\_ [amount of guarantee] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ or \_\_\_\_\_ days [insert number of days] after the rectification of the Defects, whichever is later.

[NAME OF GUARANTOR]

Signature\_\_\_\_\_

| Name    |   |
|---------|---|
| Fitle   | _ |
| Address |   |
| Seal    |   |

\_\_\_\_\_

Date\_\_\_\_\_

# 8.8. Technical Bid Form Form-I

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

To,

# Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply, install and commission the following items in conformity with the below mentioned required specification against each item.

| Sr.<br>No. | Item Name with Specifications | Quantity<br>along<br>with Unit | Country<br>of Origin | Quoted Brand<br>with country of<br>manufacturer,<br>Make & Model |
|------------|-------------------------------|--------------------------------|----------------------|--|
| 1          | 2                             | 3                              | 6                    | 7  |
| 1          |                               |                                |                      |  |

Stamp & Signature of Bidder \_\_\_\_\_

# Form II BIDDER'S COMMENTARY FORM

Bidder is required to insert specifications of quoted item, elaborate variations if any and give remarks against each component of specifications of the item quoted for supply.

| Sr.<br>No. | Item Name with<br>Specifications as per Bid<br>documents | Quoted Item Name with<br>Specifications | Variations | Remarks |
|------------|--|---|------------|---------|
| 1          |  |   |            |         |
| 2          |  |   |            |         |
| 3          |  |   |            |         |

## Stamp & Signature of Bidder \_\_\_\_\_

# 8.9. Contract Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with contract documents]

THIS AGREEMENT made the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ between [name of Procuring Agency] (hereinafter called "the Procuring Agency") of the one part and [name of Supplier] of (hereinafter called "the Supplier") of the other part:

WHEREAS the Procuring Agency invited bids for certain goods and ancillary services, viz., package No. PUT/PMU/2023-24/16, Equipments for Electrical Machines Lab. and has accepted a bid by the Supplier for the supply of those goods and services in the sum of *[contract price in words and figures]* (hereinafter called "the Contract Price").

### NOW THIS AGREEMENT WITNESSES AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:

- (a) the Form of Bid and the Price Schedule submitted by the Bidder;
- (b) Schedule of Requirements;
- (c) the Technical Specifications;
- (d) the General Conditions of Contract;
- (e) the Special Conditions of Contract; and
- (f) the Procuring Agency's Notification of Award.
- (g) Contract agreement
- (h) Complete Bidding Document
- (i) Integrity Pact (If applicable)

3. In consideration of the payments to be made by the Procuring Agency to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Procuring Agency to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract

4. The Procuring Agency hereby covenants to pay the Supplier in consideration of the provision of the goods and services, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

5. All disputes or differences between the parties in connections with or arising out of this agreement shall be settled through arbitration in accordance with the provisions of Punjab Procurement Rules 2014. The arbitration should be made through mutually agreed single arbitrator under Arbitration Act 1940.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year mentioned above.

| <b><u>Procuring Agency</u></b>               | <u>Supplier / Contractor</u> |
|--|------------------------------|
| Signature:<br>Name:<br>Designation:<br>Date: | Signature:                   |

#### <u>WITNESS:</u>

1.\_\_\_\_ 2.

# 8.10. Financial Bid Form/Price Schedule

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Financial Bid]

To,

Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply, install and commission the following items in conformity with the below mentioned prices at

|            | <u></u>     | Country of Oua              |   | Pak Rupee                         |                                 |                 |                        |   |
|------------|-------------|-----------------------------|---|-----------------------------------|---------------------------------|-----------------|------------------------|---|
| Sr.<br>No. | It          | em Name with Specifications | origin,<br>brand<br>name, make<br>& model | Quantity<br>along<br>with<br>Unit | Unit<br>Price<br>without<br>GST | GST per<br>Unit | Unit Price<br>with GST | Total Price<br>Inclusive all<br>Taxes (In Words<br>& Figures) |
| 1          |             | 2                           | 3   | 4                                 | 5                               | 6               | 7                      | 8   |
|            |             |                             |   |                                   |                                 |                 |                        |   |
|            |             |                             |   |                                   |                                 |                 |                        |   |
|            |             |                             |   |                                   |                                 |                 |                        |   |
|            |             |                             |   |                                   |                                 |                 |                        |   |
|            |             |                             |   |                                   |                                 |                 |                        |   |
|            |             |                             |   |                                   |                                 |                 |                        |   |
|            |             |                             |   |                                   |                                 |                 |                        |   |
|            |             |                             |   |                                   |                                 |                 |                        |   |
|            | Grand Total |                             |   |                                   |                                 |                 |                        |   |

# Amount of Grand total in Words:

We understand that the Procuring Agency intends to award the contract to the lowest evaluated bidder. We will not claim any additional cost in respect of aforesaid equipment due to any price variations till the expiry of warranty period. We undertake, to complete the work / supply within the given time period in case we are declared lowest evaluated bidder.

# Note:

- 1. All applicable taxes at the time of payment will be deducted. Change in the rate of tax announced by the Govt. from time to time will be applicable for the purpose of deduction of tax.
- 2. Procuring Agency can issue purchase order from time to time as per availability of funds. Therefore, selected bidder shall lock the price for 06 months after singing of contract agreement.
- 3. In case of difference between unit price and total price, unit price shall prevail and total price shall be "final". (Please refer ITB clause 2.5.6).
- 4. In case of difference between amount in "words" and amount in "figures", amount in "words" shall be considered final.

Stamp & Signature of Bidder \_\_\_\_\_

# 8.11. Bid Security Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid. Required if the bid security is in shape of bank guarantee]

Whereas [name of the Bidder] (hereinafter called "the Bidder") has submitted its Bid dated [date of submission of Bid] for the supply of [name and/or description of the goods] (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that WE [name of bank] of [name of country], having our registered office at [address of bank] (hereinafter called "the Bank"), are bound unto [name of Procuring Agency] (hereinafter called "the Procuring Agency") in the sum of for which payment well and truly to be made to the said Procuring Agency, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_\_\_ day of \_\_\_\_\_\_ 20\_\_\_\_.

THE CONDITIONS of this obligation are:

- 1. If the Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Bid Form; or
- 2. If the Bidder, having been notified of the acceptance of its Bid by the Procuring Agency during the period of Bid validity:
  - (a) fails or refuses to execute the Contract Form, if required; or
  - (b) fails or refuses to furnish the Performance Guarantee, in accordance with the Instructions to Bidders;

we undertake to pay to the Procuring Agency up to the above amount upon receipt of its first written demand, without the Procuring Agency having to substantiate its demand, provided that in its demand the Procuring Agency will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including **thirty (30) days** after the period of Bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

[Signature of the bank]

[The Procuring Agency may alter or modify the details of this form in accordance with PPR-14 keeping in view its requirements, nature of procurement i.e. Bulk/Framework, item wise/package wise and form of contract to be adopted (i.e. DDP, CIF, C&F, FOR, FOP etc. if applicable) However, for a standard procurement/contract contents of a generalized this Form may be as provided above.]

# 8.12. Draft Integrity Pact

(For the procurement of 10,000,000 and above)

The lowest evaluated successful bidder shall sign and stamp the below mentioned Integrity Pact for the procurement contracts exceeding Rupees 10 million. Failure to provide such integrity pact shall make the bidder non-responsive.

| Contract No.                 | Dated | Contract Value: [To be filled in at the |
|------------------------------|-------|---|
| time of signing of Contract] |       |   |

## Contract Title:

Without limiting the generality of the foregoing, [name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GOP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GOP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GOP under any law, contract or other instrument, be voidable at the option of GOP.

Notwithstanding any rights and remedies exercised by GOP in this regard, [name of Supplier] agrees to indemnify GOP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GOP in an amount equivalent to ten time the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GOP.

| Name of Buyer: | Name of Seller/Supplier: |
|----------------|--------------------------|
| Signature:     | Signature:               |
| [Seal]         | [Seal]                   |

# Certificate

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid.]

- A. We undertake that our organization M/S\_\_\_\_\_\_ is not black listed by any Government / Semi-Government / Agency / Autonomous Bodies in any part of Pakistan.
- B. We undertake that in case our bid accepted the goods to be supplied under the contract agreement will be genuine, brand new, non-refurbished, un-altered in any way, as per required specification, imported (if any) through proper channel.
- C. We have read all terms & conditions and undertake to abide by all Terms & Conditions mentioned in this bidding document.
- D. We also hereby categorically confirm that the proposal / bid offered by us complies to particulars and specification as given in the Bidding Documents.
- E. It is certified that quoted rates against each item are as per market rate and we will refund the excess amount, in case we offered the same items at lowest rate anywhere in Pakistan.

# Section IX- Check List

[To be signed and stamped and presented on Bidder's letter head pad] The provision of this checklist is essential prerequisite along with submission of tenders (with technical proposal).

| ropo       | Sal).   | Evidence attached             | Civon of              |
|------------|---|-------------------------------|-----------------------|
| Sr.<br>#   | Detail  | Evidence attached<br>(Yes/No) | Given at<br>page(s) # |
| 1          | Original or print of online bid fee receipt for online purchase of tender along with technical proposal.  |                               |                       |
| 2          | 02% Bid Security of estimated cost of articles / items given by the department. The Bid security must be submitted with technical proposal.           |                               |                       |
| 3          | Active Registration with Income Tax Authorities (National Tax Number NTN) at least five years old   |                               |                       |
| 4          | Copy of active Registration with Sales Tax Authorities (STRN)   |                               |                       |
| 5          | Copy of active Registration (Professional Tax Certificate)  |                               |                       |
| 6          | Manufacturer's/Dealer's/Seller's Authorization as per form 8.3  |                               |                       |
| 7          | Max <u>05</u> similar nature supply having cost 10 million or above performed / executed  |                               |                       |
|            | in public sector during last 05 years (supply order or completion certificate).<br>The procuring agency reserves the right to verify from the issuer. |                               |                       |
| 8          | General Information Form (as per form 8.5 of Bidding documents) on letter head  |                               |                       |
|            | of the firm duly signed and stamped.  |                               |                       |
| 9          | Affidavit (as per form 8.6) on non-judicial Stamp Paper minimum worth of Rs.  |                               |                       |
|            | <b>300</b> /- mentioning the followings   |                               |                       |
|            | (i) The documents/ photocopies provided with Bid are authentic. In case of  |                               |                       |
|            | any fake/bogus document noticed at any stage. They shall be black listed  |                               |                       |
|            | as per Rules / Laws.  |                               |                       |
|            | (ii) Affidavit for correctness of information.  |                               |                       |
|            | Contractor/firm is not blacklisted or subject to any pending litigation with any  |                               |                       |
|            | Government or Public Department.  |                               |                       |
| 10         | Performance Guarantee Form (as per form 8.7 of Bidding documents) on letter   |                               |                       |
|            | head of the firm, duly signed and stamped at the time of contract signing in case   |                               |                       |
|            | of bank guarantee otherwise not applicable.   |                               |                       |
| 11         | Technical Bid Form (as per <b>form 8.8</b> of Bidding documents) on letter head of the  |                               |                       |
| 10         | firm duly signed and stamped.   |                               |                       |
| 12         | Financial Bid Form (as per form 8.10 of Bidding documents) on letter head of the  |                               |                       |
| 12         | firm, duly signed and stamped in financial bid.   |                               |                       |
| 13         | Bid Security Form (as per <b>form 8.11</b> of Bidding documents) on letter head of the  |                               |                       |
| 1.4        | firm, duly signed and stamped in case of bank guarantee otherwise not applicable.   |                               |                       |
| 14         | i. Work order / supply order / purchase order of previous relevant experience for turnout.  |                               |                       |
|            | ii. Company profile. Staff list along with location and address.  |                               |                       |
|            | iii. Income Tax Returns, National tax number Certificate, General Sale Tax  |                               |                       |
|            | Number Certificate (last 05 year).  |                               |                       |
|            | Bidders profile Form (as per <b>form 8.4</b> of Bidding documents) on letter head of the  |                               |                       |
| 1.5        | firm, duly signed and stamped.  |                               |                       |
| 15         | Bank Balance Statement for June, 2023   |                               |                       |
| 16         | Certificate by bidder for provision of after sale service for 05 years.   |                               |                       |
| 17         | Payroll of June 2023 along with degrees, diplomas of technical staff  |                               |                       |
| 18         | <b>Letter of Satisfaction</b> after sale service by the client who has purchase of minimum 05 million   |                               |                       |
| 19         | Presentation of company, its products and repair & maintenance facilities for   |                               |                       |
| 19         | demonstration, word format of specifications (in soft form in USB)  |                               |                       |
| 20         | <b>Technical Brochures/ catalogues</b> of goods quoted, mentioning its specifications,  |                               |                       |
| 20         | manufacture's Brand and model etc. in hard & in word format.  |                               |                       |
| 21         | On letter head certificate that supplier will provide spare parts demanded by the   |                               |                       |
| <i>L</i> I | procuring agency within 07 days for parts available in Pakistan and within 60   |                               |                       |
|            | days for foreign spare parts.   |                               |                       |
| 22         | On letter head certificate that supplier is not black listed etc (as per certificate  |                               |                       |
| <i></i>    | provided in bidding document)   |                               |                       |
| 23         | One original and one copy of Bid provided   |                               |                       |

# Stamp & Signature of Bidder \_\_\_\_

Issued to:



# **Punjab University of Technology Rasul**

# **BIDDING DOCUMENTS** FOR **National Competitive Bidding**

# **Procurement of**

# **Equipments for Measurements & Instrument Lab**

| Bid Reference No:                   | PUT/PMU/2023-24/17  |
|-------------------------------------|---|
| Package No.17<br>Package Name:      | Equipments for Measurements &<br>Instrument Lab                         |
| Procurement Procedure & Method      | Two Stage Two Envelopes (Least Cost Method,<br>Accumulative Cost Basis) |
| Last Date & Time of Receipt of Bids | As per Advertisement  |
| Bid Opening Date & Time:            | As per Advertisement  |

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| 10         |   |       |
| 11         |   |       |
|            | P. Transportation   |       |
| 13         |   |       |
| 14         | 1   |       |
| 15         |   |       |
| 16         |   |       |
| 17         |   |       |
| 18         | 0   |       |
| 19         |   |       |
| 20         | 8   |       |
| 21         |   |       |
| 22         |   |       |
| 23         | 1 0   |       |
| 24         |   |       |
| 25         | 5   |       |
| 26         |   |       |
| 27         | J   |       |
| 28         |   | 37    |
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# Section-I: INVITATION TO BIDS TENDER NOTICE

**Punjab University of Technology Rasul** invites sealed bids/proposals from well-reputed and financially sound firms/suppliers having sufficient relevant experience as per bid documents, registered with Income Tax and Sales Tax Departments as per PPRA rules for purchase of goods for the ADP Scheme titled "Provision of Infrastructural Academic and Operational facilities to the Punjab University of Technology Rasul M.B.Din" in lots/packages given below to be delivered and equipments installed (if any) in concerned Lab(s), at PUT Rasul on DDP (Duty Delivered Paid) basis more specifically described in Technical Specifications.

| Tender No.    | Description of Packages | Estimated<br>Cost/ Bid<br>Security (Rs.) | Mode of Procurement   | Closing Date &<br>Time and<br>opening time | Bid rates<br>Validity &<br>Delivery<br>Period |
|---------------|-------------------------|--|-----------------------|--|---|
|               | Package/ lot No. 17     | 22,287,000/                              | Two stage two         | 25.09.2023                                 | 120 days                                      |
| PUT/PMU/2023- | Equipments for          | 445,800                                  | envelope procedure on | 11:00AM                                    | 90 days                                       |
| 24/17         | Measurements &          |  | cumulative cost basis | 11:30AM                                    | -   |
|               | Instrument Lab          |  |                       |  |   |

Interested eligible bidders can obtain bid documents in English language containing detailed item specifications, quantity and terms & conditions from office of the Project Director, Punjab University of Technology Rasul from 09:00AM. to 03:00PM. on any working day (Monday to Friday), on submission of written application and upon payment of non-refundable tender fee Rs. **5000**/- per package which should be deposited in university account No. **3174230619** NBP GSE Rasul Branch code 0469, Account Title: "Punjab University of Technology Rasul, Fund". Bid documents can also be downloaded from websites of PPRA or from Punjab University of Technology Rasul <u>www.putrasul.edu.pk.</u> In this case, tender fee can be transferred/ deposited online per package and send scanned copy of online transfer /deposit receipt by email before closing date for issuance of bid registered number. In case of any query, guidance can be sought from Imtiaz Ahmad Awan, Procurement Officer of the University. (Tel: +92 (336) 1031892, Email: rasulian786@gmail.com).

The sealed bids/proposals marked with Tender for relevant Package No. & name supported with Financial Proposal along with a bid security as given against each lot above in shape of CDR/ Bank Guarantee in favor of the Punjab University of Technology Rasul should reach in the Office of Project Director, Punjab University of Technology Rasul latest by closing date & time given above. Bids will be opened on the same day after 30 minutes of closing time by the Procurement Committee, in the presence of the bidders or their authorized representatives who wish to attend the meeting.

PUT Rasul will not be responsible for any cost or expense incurred by Bidders in connection with the preparation or delivery of Bids. In case the last date of submission of bids falls on closed official days/ holidays, the date for submission and opening of the bids shall be the next working day (Monday to Friday). University NTN is 9022261-4.

- Bid documents will be issued from the date of publication of Tender Notice.
- Last date of issuance of bid documents is September 23,2023.

Note: Procurement shall be governed by Punjab Procurement Rules, 2014.

Project Director (PMU), Punjab University of Technology Rasul

Section II Instructions to Bidders (ITB)

# **General Instructions 2.1. Introduction**

| 2.1.1 Scope of<br>Bid                       | <ul> <li>i) The Procuring Agency (PA), as indicated in the Bid Data Sheet (BDS) invites Bids for the provision<br/>of Goods as specified in the Section-IV Bid Data Sheet (BDS) and Section III - Technical<br/>Specifications &amp; Section VII- Schedule of Requirements. Bidders must submit bids of all items of<br/>the lot. The successful bidder will be responsible for delivery, installation &amp; commissioning (if any)<br/>of all items at consignee's end in new, safe, sound and in operational condition within the specified<br/>period and timelines as stated in the Bid Data sheet (BDS).</li> </ul>   |
|---|--|
| 2.1.2 Source of<br>Funds                    | <ul> <li>PUT Rasul has received budget from the Government of Punjab. The Procuring Agency intends to<br/>apply the provided funds/ a portion of this budget to make eligible payments under the contract for<br/>which the Invitation to bids has been issued.</li> </ul>   |
| 2.1.3 Eligible<br>Bidders                   | <ul> <li>i) This Invitation for Bids is open to all suppliers, except as provided hereinafter.</li> <li>ii) Government-owned enterprises may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government (provide certificate).</li> <li>iii) Bidders shall not be under a declaration of blacklisting by any Government department or Punjab Procurement Regulatory Authority (PPRA) (provide certificate).</li> <li>iv) The Bidders must have NTN and STRN and active tax payer status</li> <li>v) A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be Non-Responsive.</li> <li>vi) A Bidder may be ineligible if –</li> </ul>   |
|   | <ul> <li>a) The Bidder is declared bankrupt or, in the case of company or firm, insolvent;</li> <li>b) Payments in favour of the Bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting, in accordance with the national laws, in the total or partial loss of the right to administer and dispose of its property;</li> <li>c) Legal proceedings are established against such Bidder involving an order suspending payments and which may result, in accordance with the national laws, in a declaration of bankruptcy or in any other situation entailing the total or partial loss of the right to administer and dispose of the property;</li> </ul>   |
|   | <ul> <li>d) The Bidder is convicted, by a final judgment, of any offence involving professional conduct;</li> <li>e) The Bidder is debarred and blacklisted due to involvement in corrupt and fraudulent practices in accordance with the provision of section 17A of PPRA Act, 2009 and Rule-21, read with Schedule appended with, Punjab Procurement Rules, 2014.</li> <li>f) The Bidder is debarred and blacklisted in general (i.e., to the extent of all public procurement) due to consistent performance failure in accordance with the section 17A of PPRA Act, 2009 and Rule-21, read with Schedule appended with, Punjab Procurement Rules, 2014.</li> </ul>   |
| 2.1.4. Eligible<br>Goods<br>and<br>Services | <ul> <li>g) The firm, supplier and contractor is blacklisted/ debarred by any international organization.</li> <li>i) All goods and related services to be supplied under the contract shall have their origin in eligible source countries, as per policy of Govt. of Pakistan, and all expenditures made under the contract will be limited to such goods and services.</li> <li>ii) For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.</li> <li>iii) The origin of goods and services is distinct from the nationality of the Bidder.</li> </ul> |
| 2.1.5 Cost of<br>Bidding                    | <ul> <li>The Bidder shall bear all costs associated with the preparation and submission of its bid, and the<br/>Procuring Agency named in the Bid Data Sheet, hereinafter referred to as "the Procuring Agency,"<br/>will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the<br/>bidding process.</li> </ul>   |
| 2.1.6 One<br>person<br>one Bid              | <ul> <li>As per Rule 36A of Punjab Procurement Rules 2014, a Bidder shall submit only one Bid in the same<br/>bidding process, either individually as a Bidder or as a member in a joint venture or any similar<br/>arrangement.</li> </ul>  |

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|  | iii)    | venture in the same Bidding process.<br>A Bidder, if acting in the capacity of sub-contractor in any Bid, shall not submit bid for the same. |
|  | ii)     | No Bidder can be a sub-contractor while submitting a Bid individually or as a member of a joint  |

# **2.2.** The Bidding Documents

|       |                                    | g Documents  |
|-------|------------------------------------|--|
|       | Content of<br>Bidding<br>Documents | <ul> <li>i) The goods required, bidding procedures, and contract terms are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents include: <ul> <li>(a) Instructions to Bidders (ITB)</li> <li>(b) Technical Specifications</li> <li>(c) Bid Data Sheet</li> </ul> </li> <li>(d) General Conditions of Contract (GCC)</li> <li>(e) Special Conditions of Contract (GCC)</li> <li>(f) Schedule of Requirements</li> <li>(g) Bid Submission Form</li> <li>(h) Manufacturer's Authorization Form (if applicable)</li> <li>(i) Bidder Profile Form</li> <li>(j) General Information Form</li> <li>(k) Affidavit</li> <li>(l) Bid Security Form (if bid security as bank guarantee)</li> <li>(m) Technical Bid Form</li> <li>(n) Contract Form (at the time of contract signing)</li> <li>(o) Financial Bid Form/ Price Schedule</li> <li>(p) Performance Guarantee Form/ CDR (at the time of contract signing)</li> <li>(q) Draft Integrity Pact (if applicable)</li> <li>(r) Certificate</li> <li>(s) Bidders Commentary Form</li> <li>(f) Check list</li> <li>ii) The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its bid.</li> <li>iii) In case of discrepancies between the Invitation to Bid and the Bidding Documents Isted in TTB 2.2.1 (i) above, the said Bidding Documents, not in conflict with any provision of PPR-14, will take precedence.</li> <li>(v) The Procuring Agency or from its website or website of PPRA. Reconfirming from the Procuring Agency or form its website of the Bidder.</li> <li>(i) A prospective Bidder requiring any clarification of the bidding documents may notify the Procuring Agency in writing or by email at the Procuring Agency's address indicated in Bid Data Sheet. The Procuring Agency will responsibility of the Bidder.</li> </ul> |
| 2.2.2 | of Bidding                         | <ul> <li>from the Procuring Agency or from its website or website of PPRA. Re-<br/>confirming from the Procuring Agency that all pages/ contents have been<br/>properly and clearly received is the prime responsibility of the Bidder.</li> <li>i) A prospective Bidder requiring any clarification of the bidding documents<br/>may notify the Procuring Agency in writing or by email at the Procuring<br/>Agency's address indicated in Bid Data Sheet. The Procuring Agency will<br/>respond in writing to any request for clarification of the bidding documents</li> </ul>  |
|       |                                    | <ul> <li>submission of bids prescribed in the Bid Data Sheet. Written copies of the Procuring Agency's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective bidders that have received the bidding documents.</li> <li>ii) A prospective Bidder requiring any clarification of the Bidding Documents may notify the Procuring Agency in writing or in electronic form that</li> </ul>  |
|       |                                    | <ul> <li>provides record of the content of communication at the Procuring Agency's address indicated in the <b>BDS</b>.</li> <li>iii) The Procuring Agency will within three (3) working days after receiving the request for clarification, respond in writing or in electronic form to any</li> </ul>  |

|  |                   | request for clarification provided that such request is received not later than seven (7) days prior to the deadline for the submission of Bids. As prescribed in <b>ITB 2.2.2 (i)</b> , <b>above</b> .  |
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|  | iv)               | Copies of the Procuring Agency's response will be uploaded on the website<br>of procuring agency on given date and forwarded to identified Prospective<br>Bidders through an expeditious identified source of communication, e.g.: e-<br>mail etc., including a description of the inquiry, but without identifying its<br>source.   |
|  | v)                | The Bidder's designated representative is invited at the Bidder's cost<br>to attend a pre-Bid meeting at the place, date and time mentioned in<br><b>the BDS</b> . During this pre-Bid meeting, prospective Bidders may<br>request clarification of the schedule of requirement, the Evaluation<br>Criteria or any other aspects of the Bidding Documents.   |
|  | vi)               | Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be transmitted promptly to all prospective Bidders who have obtained the Bidding Documents and by uploading same on the website of the procuring agency. Any modification to the Bidding Documents that may become necessary as a result of the pre-Bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum pursuant to ITB 2.2.3. Non-attendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.              |
| 2.2.3 Amendment<br>of Bidding<br>Documents | i)<br>ii)<br>iii) | At any time prior to the deadline for submission of bids, but not later than<br>three (3) days before the closing date of the submission of Bid, the Procuring<br>Agency, for any reason, whether at its own initiative or in response to a<br>clarification requested by a prospective Bidder, may modify the bidding<br>documents by amendment.<br>All prospective bidders that have received the bidding documents will be<br>notified of the amendment in writing or by email, and will be binding on them.<br>In order to allow prospective bidders reasonable time in which to take an<br>addendum into account in preparing their bids, the Procuring Agency, at its<br>discretion, may extend the deadline for the submission of bids. |
| 2.3. Preparation                           | l of              | Bids   |
| 2.3.1 Language of<br>Bid                   | i)                | The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Procuring Agency shall be written in the language specified in the <b>Bid Data Sheet.</b> Supporting documents and printed literature furnished by the Bidder should be in same language.  |
| 2.3.2 Bid Form                             | i)                | The Bidder shall complete the Bid Form and Price Schedule (Financial Bid) furnished in the bidding documents, indicating the goods to be supplied, a brief description of goods, their country of origin, brand, model, quantity and prices.   |
| 2.3.3 Bid Prices                           | i)                | Item wise total price in figures and grand total price, in words and figures<br>should be quoted at the respective columns of the Bid Form. The total quoted<br>price must be inclusive of all applicable taxes and duties as per prevailing<br>Govt. rules, transportation / delivery, installation and commissioning charges<br>etc. in Pak Rupees.  |
|  | ii)               | Prices indicated on the bid form shall be <b>delivered duty paid (DDP) prices</b> .  |
| 2.3.4 Bid Currencies                       | i)                | Full and final prices shall be quoted in Pak Rupees  |
|  |                   |  |

| 2.3.5 Documents<br>Establishing<br>Bidder's                                   | i) The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.  |
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| Eligibility and<br>Qualification  | ii) The documentary evidence of the Bidder's eligibility to Bid shall establish to the Procuring Agency's satisfaction that the Bidder, at the time of submission of its Bid, is eligible as defined under ITB Clause 2.1.3.  |
|   | iii) The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Procuring Agency's satisfaction:   |
|   | <ul> <li>(a) that, in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Manufacturer [Manufacturer's/Authorized Dealer's Authorization Form No. 8.3] or producer/Authorized dealer to supply the same in Pakistan;</li> </ul>   |
|   | (b) that the Bidder has the financial, technical, and personnel capability necessary to perform the contract;   |
|   | (c) that, in the case of a Bidder not doing business within Pakistan, the Bidder<br>is or will be (if awarded the contract) represented by an Agent in that country<br>equipped, and able to carry out the Supplier's maintenance, repair, and spare<br>parts stocking obligations prescribed in the Conditions of Contract and/or<br>Technical Specifications; and   |
|   | (d) that the Bidder meets the qualification criteria listed in the Bid Data Sheet.  |
| 2.3.6 Documents<br>Establishing<br>Goods'<br>Eligibility and<br>Conformity to | <ul> <li>Pursuant to ITB Clause 2.1.4, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services which the Bidder proposes to supply under the contract.</li> </ul>  |
| Bidding<br>Documents  | <ul> <li>The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule/Financial Bid Form of the country of origin of the goods and services offered which shall be confirmed by a Certificate of Origin issued at the time of shipment.</li> </ul>  |
|   | iii) The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:  |
|   | <ul> <li>(a) a detailed description of the essential technical and performance characteristics of the goods;</li> <li>(b) a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period to be specified in the Bid Data Sheet, following commencement of the use of the goods by the Procuring Agency; and</li> <li>(c) an item-by-item commentary on the Procuring Agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.</li> <li>iv) For purposes of the commentary to be furnished, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring Agency in its Technical Specifications, are intended to be descriptive only and not restrictive.</li> <li>(a) If some of the specifications are not available in the literature /</li> </ul> |
|   | brochure provided by the bidder but the same have been mentioned /<br>reported / committed in the Commentary Form by the bidder, the<br>bidder will give an undertaking or in response of Procuring Agency's<br>clarifications, that the machinery & equipment to be supplied will  |

|                    | conform to the required / bid specifications. The procuring agency  |
|--------------------|---|
|                    | <ul> <li>(b) The commentary form facilitates the bidder to elaborate their bid offer in terms of required accessories / specifications which are not available in the technical literature / brochure of the goods. In case the brochure provided by the bidder meets all the required specifications than commentary form has no significant impact.</li> <li>(c) In case of contradiction between the brochure and commentary form, the information available in the brochure will prevail.</li> <li>v) Where a sample(s) is required by a procuring agency, the sample shall be:</li> <li>(a) submitted as part of the bid, in the quantities, dimensions and other details requested in the BDS;</li> <li>(b) carriage paid;</li> </ul> |
|                    | <ul><li>(c) received on, or before, or after technical bids the closing time and date for the submission of bids as specified in DBS; and</li><li>(d) Evaluated to determine compliance with all characteristics listed in the</li></ul>  |
|                    | <ul> <li>BDS.</li> <li>vi) The Procuring Agency may retain the sample(s) of the successful Bidder till the successful delivery of the goods. A Procuring Agency may reject the Bid if the sample(s)-</li> <li>(a) do(es) not conform to all characteristics prescribed in the bidding documents; and</li> </ul>   |
|                    | <ul><li>(b) is/are not submitted within the specified time clearly mentioned in the Bid Data Sheet.</li></ul>   |
|                    | <ul> <li>vii) Where it is not possible to avoid using a propriety article as a sample, a<br/>Bidder shall make it clear that the propriety article is displayed only as an<br/>example of the type or quality of the goods being Bided for, and that<br/>competition shall not thereby be limited to the extent of that article only.</li> </ul>  |
|                    | <ul> <li>viii) Samples made up from materials supplied by a Procuring Agency shall not<br/>be returned to a Bidder nor shall a Procuring Agency be liable for the cost<br/>of making them.</li> </ul>   |
|                    | ix) All samples produced from materials belonging to an unsuccessful Bidder<br>may be kept by the Procuring Agency till thirty (30) days from the date of<br>award of contract or exhaust of all the grievance forums (including those<br>pending at Authority's Level or in some Court of Law).  |
|                    | <ul> <li>x) The Bidder shall also furnish a list giving full particulars, including available sources and current prices of goods, spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period specified in the BDS following commencement of the use of the goods by the Procuring Agency.</li> </ul>   |
|                    | xi) The required documents and other accompanying documents must be in<br>English. In case any other language than English is used the pertinent<br>translation attested by the embassy in country of manufacturer into English<br>shall be attached to the original version.   |
| 2.3.7 Bid Security | i) The Bidder shall furnish, as part of its bid, a bid security in the amount specified in the Bid Data Sheet.  |
|                    | ii) The bid security is required to protect the Procuring Agency against the risk of Bidder's conduct which would warrant the security's forfeiture Pursuant to ITB Clause 2.3.8.   |
|                    | iii) The bid security shall be in Pak. Rupees and shall be in one of the following forms:   |
|                    | <ul> <li>(a) Bank guarantee or Call Deposit Receipt (CDR), valid for thirty (30) days beyond the validity of bid.</li> </ul>  |
|                    | iv) Any bid without bid security or less than the amount as demanded in invitation to bid will be rejected by the Procuring Agency as nonresponsive   |

|  | v)   | Unsuccessful bidders' bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Procuring Agency as rule $38(2)(a)(vii)$ of PPR14.   |
|--|------|---|
|  | vi)  | The successful Bidder's bid security will be discharged upon the Bidder signing the contract, and furnishing the performance guarantee.   |
|  | vii) | The bid security may be forfeited:  |
|  |      | <ul><li>(a) if a Bidder withdraws its bid during the period of bid validity specified<br/>by the Bidder on the Bid Form; or</li></ul>   |
|  |      | (b) in the case of a successful Bidder, if the Bidder fails:  |
|  |      | (i) to sign the contract Or   |
|  |      | (ii) to furnish performance guarantee   |
|  |      | <ul> <li>(iii) If the blacklisting proceedings under Section-17A of PPRA<br/>Act, 2009 read with Rule-21 of PPR-14 are initiated and the<br/>bidder is declared blacklisted after due process of law.</li> </ul>  |
| 2.3.8 Period of<br>Validity of<br>Bids | i)   | Bids shall remain valid for the period specified in the Bid Data Sheet after<br>the date of bid opening prescribed by the Procuring Agency. A bid valid<br>for a shorter period shall be rejected by the Procuring Agency as<br>nonresponsive.  |
|  | ii)  | In exceptional circumstances, the Procuring Agency may solicit the<br>Bidder's consent to an extension of the period of validity (as per rule-28 of<br>PPR-14). The request and the responses thereto shall be made in writing<br>(or by email). The bid security provided shall also be suitably extended.<br>A Bidder may refuse the request without forfeiting its bid security. A<br>Bidder accepting the request will not be required nor permitted to modify<br>its Bid.  |
| 2.3.9 Format and<br>Signing of Bid     | i)   | The Bidder shall prepare an original and the number of copies of the Bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall prevail.  |
|  | ii)  | The Bidder shall authorize a person/ persons for signing, submission and<br>further correspondence with Procuring Agency on behalf of bidder.<br>Authority letter must be part of bid. However, in case of any issue bidder<br>shall be responsible for all consequences.   |
|  | iii) | The original and the copy or copies of the Bid shall be typed or written in<br>indelible ink and shall be signed by the Bidder or a person duly authorized<br>to bind the Bidder to the contract. This authorization shall consist of a<br>written confirmation as specified in the <b>BDS</b> and shall be attached to the<br>Bid. The name and position held by each person signing the authorization<br>must be typed or printed below the signature. All pages of the Bid, shall<br>be signed and stamped by the authorized person. |
|  | iv)  | Any interlineations, erasures & cutting, or overwriting shall be valid only if they are signed and stamped by the person or persons signing the bid.<br>2.4. Submission of Bids   |

# 2.4. Submission of Bids

| 2.4.1 Sealing<br>and<br>Marking<br>of Bids | i) As per Rule 24, the Bidder shall seal the original and each copy of the Bid in separate<br>envelopes, duly marking the envelopes as "ORIGINAL" and "COPY." The envelopes<br>shall then be sealed in an outer envelope. The bidder should submit technical and<br>financial bids in two separate envelopes clearly marking "Technical Bid" and<br>"Financial Bid" covered under one main (Outer) envelope marking Bid Reference and<br>Package Name on top left corner of the main (outer) envelope. Address and contact No. |
|--|--|
|  | of the bidder should also be written on inner and outer envelope.  |

|   | ii)  | The inner and outer envelopes shall:   |
|---|------|--|
|   | 11)  | <ul><li>(a) be addressed to the Procuring Agency at the address given in the Bid Data Sheet;<br/>and</li></ul>   |
|   |      | <ul><li>(b) bear the title of procurement Activity indicated in the Bid Data Sheet, the Invitation to Bids (ITB) title and number indicated in the Bid Data Sheet, and a statement: "DO NOT OPEN BEFORE. (Time and date)," the outer and inner envelopes should properly be sealed so that contents of the bid are fully enclosed and cannot be known until open.</li></ul>  |
|   | iii) | The outer envelope and inner envelopes also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".   |
|   | iv)  | If the outer envelope is not sealed and marked properly, the Procuring Agency will assume no responsibility for the bid's misplacement or premature opening.   |
|   | v)   | Technical Bid / Proposal should consist of duly singed and stamped bidding documents,<br>Form of bid indicating country of origin and Brand, Model and literature / brochures<br>and all information / documents demanded in the bidding documents for technical<br>evaluation. Bid Security as demanded in advertisement / invitation to bid must be<br>placed in technical bid. Financial Bid / Proposal should consist of price / rates on the<br>prescribed format available in the bidding documents. |
| 2.4.2 Deadline<br>for Submission                    | i)   | Bids must be received by the Procuring Agency at the address specified in the bid data sheet no later than the time and date specified in the Bid Data Sheet.  |
| of Bids   | ii)  | The Procuring Agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents, in which case all rights and obligations of the Procuring Agency and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.  |
| 2.4.3 Late Bids                                     | i)   | Any bid received by the Procuring Agency after the deadline for submission of bids prescribed by the Procuring Agency will be rejected and returned unopened to the Bidder.  |
|   | ii)  | Any Bid received by the Procuring Agency after the deadline for submission of Bids shall be declared late, recorded, rejected and returned unopened to the Bidder.   |
| 2.4.4Modificatio<br>n and<br>Withdraw<br>al of Bids | i)   | The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring Agency prior to the deadline prescribed for submission of bids.   |
|   | ii)  | The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of Clause (i). A withdrawal notice may also be sent by email, but followed by a signed confirmation copy, postmarked not later than the deadline for submission of bids.  |
|   | iii) | No bid may be modified after the deadline for submission of bids.  |
|   | iv)  | No bid may be withdrawn in the interval between the deadline for submission of bids<br>and the expiration of the period of bid validity specified by the Bidder on the Bid Form.<br>Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid<br>security (along with other remedies available under PPR-14).  |
|   | v)   | Revised bid may be submitted after the withdrawal of the original bid by written notice before the deadline for submission of Bids.  |

# 2.5. Opening and Evaluation of Bids

| 2.5.1 Opening of<br>Bids by the<br>Procuring | i) the Procuring Agency will open all technical bids, in public, in the presence of bidders of bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the <b>Bid Data Sheet</b> . The bidders or bidders' representatives who are presentatives who |
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| Agency                                       | shall sign an attendance sheet evidencing their presence.   |
|  | ii) First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. Not  |

|                          | bid withdrawal shall be permitted unless the corresponding Withdrawal Notice contains<br>a valid authorization to request the withdrawal and is read out at bid opening.  |
|--------------------------|---|
|                          | iii) Second, outer envelopes marked "SUBSTITUTION" shall be opened. The inner<br>envelopes containing the Substitution Bid shall be exchanged for the corresponding<br>Original Bid being substituted, which is to be returned to the Bidder unopened. No<br>envelope shall be substituted unless the corresponding Substitution Notice contains a<br>valid authorization to request the substitution and is read out and recorded at bid opening.  |
|                          | iv) Next, outer envelopes marked "MODIFICATION" shall be opened. No Technical<br>Proposal and/or Financial Proposal shall be modified unless the corresponding<br>Modification Notice contains a valid authorization to request the modification and is read<br>out and recorded at the opening of the Bids. Any Modification shall be read out along<br>with the Original Bid except in case of Single Stage Two Envelope Procedure where only<br>the Technical Proposal, both Original as well as Modification, are to be opened, read out<br>and recorded at the opening. Financial Proposal, both Original and Modification, will<br>remain unopened till the prescribed financial bid opening date.  |
|                          | <ul> <li>v) At the first stage, only technical bids / proposals will be opened and sealed financial bids will remain under the custody of procuring agency until open in the second stage. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder, pursuant to 2.4.3 (i). The presence or absence of requisite bid security will be announced. The technical proposals shall be discussed with the bidders with reference to the procuring agency's technical requirements;</li> <li>vi) those bidders willing to meet the requirements of the procuring agency shall be allowed to revise their technical proposal so per revised requirements of the procuring agency shall be allowed to security;</li> </ul>   |
|                          | Second stage  |
|                          | <ul> <li>vii) after agreement between the procuring agency and the bidders on the technical requirements, bidders who are willing to conform to the revised technical specifications and whose bids have not already been rejected shall submit a revised technical proposal and supplementary financial proposal, according to the technical requirement;</li> <li>viii) the revised technical proposal along with the original financial proposal and supplementary financial proposal shall be opened at a date, time and venue announced in advance by the procuring agency:</li> <li>Provided that in setting the date for the submission of the revised technical proposals and supplementary price proposals a procuring agency shall allow sufficient time to the bidders to incorporate the agreed changes in the technical proposal and to prepare the required supplementary financial proposal; and</li> <li>ix) The bidders' names, bid prices, discounts, and such other details as the Procuring Agency, at its discretion, may consider appropriate, will be announced at the opening. The procuring agency shall evaluate the whole proposal in accordance with the evaluation criteria and the lowest evaluated bid shall be accepted.</li> </ul> |
|                          | <ul> <li>The Procuring Agency will prepare minutes of the bid opening. Minutes of the Bid<br/>Opening shall be recorded and uploaded by the procuring agency on its website or shared<br/>to all bidders through e-mail.</li> </ul>   |
| 2.5.2<br>Confidentiality | <ul> <li>i) Information relating to the examination, clarification, evaluation and comparison of Bids<br/>and recommendation of contract award shall not be disclosed to Bidders or any other<br/>persons not officially concerned with such process until the time of the announcement of<br/>the respective evaluation report in accordance with the requirements of rule 37 of PPR-<br/>14.</li> </ul>   |
|                          | <ul> <li>ii) Any effort by a Bidder to influence the Procuring Agency processing of Bids or award decisions may result in the rejection of its Bid.</li> <li>iii) Notwithstanding ITB Clause 2.2.2 from the time of Bid opening to the time of contract award, if any Bidder wishes to contact the Procuring Agency on any matter related to the</li> </ul>   |

|  | Bidding process, it should do so in writing or in electronic forms that provides record o the content of communication.   |
|--|---|
| 2.5.3<br>Clarification of<br>Bids      | <ul> <li>During evaluation of the bids, the Procuring Agency may, at its discretion, ask the Bidde for a clarification of its Bid including breakdown of prices to determine its reasonability. The request for clarification and the response shall be in writing or in electronic forms and no change in the prices or substance of the bid shall be sought, offered, or permitted Any clarification submitted by a Bidder that is not in response to a request by the Procuring Agency shall not be considered.</li> <li>ii) From the time of Bid energing to the time of Contract eward if any Bidder wichoe to be a substance of the bid shall be sought.</li> </ul>   |
|  | ii) From the time of Bid opening to the time of Contract award if any Bidder wishes to<br>contact the Procuring Agency on any matter related to the Bid it should do so in writing<br>or in electronic forms that provide record of the content of communication.   |
| 2.5.4 Preliminary<br>Examination       | <ul> <li>The Procuring Agency will examine the bids to determine whether they are complete<br/>whether any computational errors have been made, whether required securities have been<br/>furnished, whether the documents have properly been signed, and whether the bids are<br/>generally in order.</li> </ul>   |
|  | ii) Arithmetical errors will be rectified on the following basis.   |
|  | <ul> <li>a) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited.</li> <li>b) If there is a discrepancy between words and figures, the amount in words will prevail.</li> </ul>  |
|  | iii) Prior to the detailed evaluation, the Procuring Agency will determine the substantial responsiveness of each bid to the bidding documents, pursuant to ITB Clause 2.5.5. For purposes of these Clauses, a substantially responsive bid is one which most closely conforms to all the terms and conditions of the bidding documents without deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning <b>Bid Security</b> (ITB Clause 2.3.8), <b>Applicable Law</b> (GCC Clause 30), <b>Taxes and Duties</b> (GCC Clause 32) & mandatory Registrations/ Renewals will be deemed to be a material deviation. The Procuring Agency's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence. |
|  | iv) If a bid is not substantially responsive, it will be rejected by the Procuring Agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.   |
|  | v) Prior to the detailed evaluation of Bids, the Procuring Agency will determine whether each Bid:  |
|  | <ul> <li>a) Meets the eligibility criteria defined in ITB 2.1.3 and ITB 2.1.4;</li> <li>b) Has been prepared as per the format and contents defined by the Procuring Agency in the Bidding Documents;</li> <li>c) Has been properly signed;</li> </ul>  |
|  | <ul><li>d) Is accompanied by the required securities; and</li></ul>   |
|  | e) Is responsive to the requirements of the Bidding Documents.  |
|  | The Procuring Agency's determination of a Bid's responsiveness will be based on the contents of the Bid itself.   |
| 2.5.5<br>Examination of<br>Terms and   | i) The Procuring Agency shall examine the Bid to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the Bidder without any materia deviation or reservation.  |
| Conditions;<br>Technical<br>Evaluation | <ul> <li>ii) The Procuring Agency shall evaluate the technical aspects of the Bid submitted to confirm that all requirements specified in Section III-Technical Specifications</li> <li>Section VII – Schedule of Requirements &amp; Evaluation Criteria as provided in BDS, have been met without material deviation or reservation.</li> </ul>  |

|   | iii) If after the examination of the terms and conditions and the technical evaluation, the Procuring Agency determines that the Bid is not responsive in accordance, it shall reject the Bid.  |
|---|---|
| 2.5.6. Correction<br>of Errors                  | <ul> <li>i) Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: - <ul> <li>a) If there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the Procuring Agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;</li> <li>b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the sub-totals shall prevail and the total shall be corrected; and</li> <li>c) Where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.</li> <li>d) Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.</li> <li>ii) The amount stated in the Bid will, be adjusted by the Procuring Agency in accordance with the above procedure for the correction of errors. The concurrence of the Bidder shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, its Bid will then be rejected, and the Bid Security may be forfeited or the Bid Securing Declaration may be executed in accordance with ITB 2.3.8.</li> </ul> </li> </ul> |
| 2.5.8 Post-<br>Qualification &<br>Evaluation of | <ul> <li>i) In the absence of prequalification, the Procuring Agency will determine to its satisfaction whether the Bidder is qualified to perform the contract satisfactorily as per evaluation criteria listed in BDS &amp; ITB clause 2.1.3.</li> </ul>  |
| Bids  | ii) The determination will take into account the Bidder's experience, Bidder's financial, technical, and production/ supplying capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 2.3.6, as well as such other information required for eligibility/ qualification expressed in BDS as the Procuring Agency deems necessary and appropriate.   |
|   | <ul> <li>iii) The Procuring Agency will technically evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 2.5.5, as per Technical Specifications required.</li> <li>iv) The financial evaluation of a Bid will be on the basis of form of Price Schedules/ Financial Bid Form 8.10. The bidder offering partial scope of work will be disqualified. The bidder offering complete scope of work and securing required marks or more in the technical evaluation will be declared technically qualified bidder. All quoted items of the complete package should meet the minimum required specification. In case any one item out of the complete package does not meet the minimum required specification then such a bid will be rejected. All bidders will be informed after technical evaluation either they are qualified or not.</li> <li>v) The Procuring Agency's financial evaluation of a bid will be on delivered duty paid (DDP) price inclusive of prevailing taxes and duties. A bid most closely conforming to evaluation criteria and other conditions specified in the bidding documents and having lowest evaluated cost will be selected as lowest evaluated bid.</li> </ul>   |
| 2.5.9 Contacting<br>the Procuring<br>Agency     | <ul> <li>No Bidder shall contact the Procuring Agency on any matter relating to its bid, from the time of<br/>the bid opening to the time evaluation report is made public i.e., 10 days before the contract is<br/>awarded. If the Bidder wishes to bring additional information or has grievance to the notice of the<br/>Procuring Agency, it should do so in writing.</li> </ul>  |
|   | <ul> <li>Any effort by a Bidder to influence the Procuring Agency during bid evaluation, or bid comparison<br/>may result in the rejection of the Bidder's bid.</li> </ul>  |

| 2.5.10. Grievance<br>Redressal | i)   | As per Rule-67 of PPR-14, Procuring Agency has constituted a Grievance Redressed Committee (GRC) with proper powers and authorization to address the complaints.   |
|--------------------------------|------|--|
|                                | ii)  | Any Bidder feeling aggrieved can file its written complaint against the eligibility parameters or<br>any other terms and conditions prescribed in the Bidding documents found contrary to provision<br>of Rule 33, and the same shall be addressed by the Procuring Agency well before the proposal<br>submission deadline.  |
|                                | iii) | Any party can file its written complaint against the eligibility parameters or any other terms and conditions prescribed in the bidding documents found contrary to provision of Rule 34 and the same shall be addressed by the Procuring Agency well before the proposal submission deadline.   |
|                                | iv)  | Any Bidder feeling aggrieved by any act of the Procuring Agency after the submission of his Bid may lodge a written complaint concerning his grievances not later than ten days after the announcement of the Final evaluation reports. In case of single stage – two envelope bidding procedure any bidder feeling aggrieved from technical evaluation may file a grievance within 5 days of announcement of the technical evaluation report. After completion of the technical evaluation report on the website of PPRA and Procuring Agency for obtaining/ receiving grievance petitions from the prospective bidders (if any). |
|                                | v)   | In case, the complaint/grievance is filed after the issuance of the final evaluation report, the complainant cannot raise any objection on technical evaluation of the report. Provided that the complainant may raise the objection on any part of the final evaluation report in case where single stage one envelop bidding procedure is adopted.   |
|                                | vi)  | The GRC shall investigate and decide upon the complaint within fifteen days of the receipt of the complaint. Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.  |

| 2.6. Award of Contr | ract |
|---------------------|------|
|---------------------|------|

| 2.6.1. Notification of Award                                | i)   | Prior to the expiration of the period of bid validity, the Procuring Agency will notify the successful Bidder in writing by registered letter or by email to be confirmed in writing by registered letter, that its bid has been accepted.   |
|---|------|--|
|   | ii)  | The notification of award will constitute the formation of the Contract.   |
|   | iii) | Upon the successful Bidder's furnishing of the Performance Guarantee pursuant to ITB Clause 2.6.2 (i), the Procuring Agency will promptly notify each unsuccessful Bidder and will discharge its Bid security, pursuant to ITB Clause 2.3.8 (v).   |
| 2.6.2 Performance<br>Guarantee                              | i)   | Within seven (07) days of the receipt of notification of award, the successful Bidder shall furnish the performance guarantee in accordance with the Conditions of Contract, in the Performance Guarantee Form provided in the bidding documents, or in another form acceptable to the Procuring Agency.   |
|   | ii)  | Failure of the successful Bidder to comply with the requirement of ITB Clause (i) above<br>or ITB Clause 2.6.3 shall constitute sufficient grounds for the annulment of the award and<br>forfeiture of the bid security along with other remedies available under PPR-14. After that,<br>the Procuring Agency may decide to award the contract to the next lowest evaluated<br>Bidder, keeping in view the Bid validity time, or call for new Bids keeping in view the<br>concept of value for money as defined under rule-2(ae) read with Principles of<br>Procurement as enunciated in rule-4 of PPR-14. |
| 2.6.3 Signing of<br>Contract/ Issuance<br>of Purchase Order | i)   | At the same time as the Procuring Agency notifies the successful Bidder that its Bid has<br>been accepted, the Procuring Agency will <b>send the Bidder the Contract Form provided</b><br><b>in the Bidding documents, incorporating all agreements between the parties.</b> Within<br>seven (07) days of issuance of notification of award, the successful Bidder shall sign,<br>stamp and date the contract.   |
|   | ii)  | The procuring agency shall issue purchase order after the receipt of required performance guarantee, as per rule 55 of PPR-14.   |
| 2.6.4 Award<br>Criteria                                     | i)   | Subject to ITB Clause 2.6.2, under rule-55 of PPR-14, the Procuring Agency will award the contract to the successful Bidder whose Bid has been determined to be responsive and has been determined to be the lowest evaluated Bid, provided that the Bidder has been determined to be qualified to perform the contract satisfactorily.  |

| 2.6.5. Procuring<br>Agency's Right to<br>Vary Quantities at<br>Time of Award | i)        | The Procuring Agency reserves the right at the time of contract award to increase or decrease the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions, on the analogy of rule-59 I(iv) of PPR-14 (not more than 15%).  |
|--|-----------|---|
| 2.6.6 Procuring<br>Agency's Right to<br>Accept or Reject<br>All Bids         | i)        | As per rule 35 of PPR-14, the Procuring Agency reserves the right to accept or reject all bids, and to annul the bidding process at any time prior to contract award, without thereby incurring any liability to the Bidder or bidders or any obligation to inform the bidders of the grounds for the Procuring Agency's action.  |
| All Dius   | ii)       | The Bidders shall be promptly informed about the rejection of the Bids, if any.   |
|  | iii)      | The Procuring Agency shall upon request communicate to any Bidder, the grounds for its rejection of all Bids or proposals, but shall not be required to justify those grounds.  |
| 2.6.7 Re-bidding   | i)        | If the Procuring Agency rejects all the Bids under rule 35, it may proceed with the process of fresh Bidding but before doing that it shall assess the reasons for rejection and may, if necessary, revise specifications, evaluation criteria or any other condition for Bidders.  |
| 2.6.8 Corrupt or<br>Fraudulent<br>Practices                                  | i)        | <ul> <li>The Procuring Agency requires that Bidders, Suppliers, and Contractors observe the highest standard of ethics during the procurement and execution of contracts. For the purposes of this provision, the terms set forth below are defined as follows:</li> <li>(a) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official, bidder or Contractor in the procurement process or in contract execution; and</li> </ul>   |
|  |           | (b) "fraudulent practice" means a misrepresentation of facts in order to influence a<br>procurement process or the execution of a contract to the detriment of the Procuring<br>Agency,   |
|  |           | (c) "collusive practice" is an arrangement among bidders (prior to or after bid<br>submission) designed to establish bid prices at artificial, non-competitive levels for<br>any wrongful gains, and to deprive the Procuring Agency of the benefits of free and<br>open competition and any request for, or solicitation of anything of value by any<br>public official in the course of the exercise of his duty; it may include any of the<br>following:   |
|  | i.<br>ii. | Coercive practice by impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;<br>Collusive practice by arrangement between two or more parties to the procurement process or Contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any  |
|  |           | <ul><li>wrongful gain;</li><li>Offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;</li><li>Any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;</li></ul>   |
|  | v.        | Obstructive practice by harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a Contract or deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements before investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or acts intended to materially impede the exercise of inspection and audit process." |
|  | Black     | ii) Blacklisting & Debarment:<br>disted Consultants and those found involved in "Corrupt Practices" are not allowed to<br>participate in bidding.   |
|  |           | irements & Procedure for Blacklisting & Debarment:<br>r As per S-17A of PPRA, Act, 2009:  |

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| "17 | <b>A. Blacklisting.</b> $-(1)$ A procuring agency may, for a specified period and in the prescribed |
|-----|---|
|     | manner, debar a bidder or Contractor from participating in any public procurement                   |
|     | process of the procuring agency, if the bidder or Contractor indulges in corrupt practice           |
|     | or any other prescribed practice.   |
| (2) | The Managing Director may, in the prescribed manner, debar a bidder or Contractor                   |
|     | from participating in any public procurement process of all or some of the procuring                |
|     | agencies for a specified period.  |
| (3) | Any person, aggrieved from a decision of a procuring agency, may within prescribed                  |
|     | period prefer a representation before the Managing Director.  |
| (4) | A procuring agency or any other person, aggrieved from a decision of the Managing                   |
|     | Director, may within prescribed period prefer a representation before the Chairperson               |
|     | whose decision on such representation shall be final.]  |
| As  | per rule 21 of PPR-14:  |
| 21. |   |
|     | Contractor from participating in any public procurement process of the procuring                    |
|     | agency, if the bidder or Contractor has:  |
| (a) | acted in a manner detrimental to the public interest or good practices;                             |
| (b) | consistently failed to perform his obligation under the Contract;                                   |
|     | ot performed the Contract up to the mark; or  |
|     | indulged in any corrupt practice.   |
| (2) | If a procuring agency debars a bidder or Contractor under sub-rule (1), the procuring               |
|     | agency:   |
| (a) | shall forward the decision to the Authority for publication on the website of the Authority;        |
|     | and   |
| (b) | may request the Authority to debar the bidder or Contractor for procurement of all                  |
|     | procuring agencies.   |
| (3) | The Managing Director may debar a bidder or Contractor of any procuring agency from                 |
|     | participating in any public procurement process of all or some of the procuring agencies            |
|     | for such period as the Managing Director may determine.   |
| (4) | Any person aggrieved by a declaration made under rule 20 or a decision under sub-rule (1)           |
|     | of this rule may, within thirty days from the date of the publication of the information on         |
|     | the website of the Authority, file a representation before the Managing Director and the            |
|     | Managing Director may pass such order on the representation as he may deem fit.                     |
| (5) | Any person or procuring agency aggrieved by an order under sub-rule (3) or (4) may, within          |
|     | thirty days of the order, file a representation before the Chairperson and the Chairperson          |
|     | may pass such order on the representation as he may deem appropriate.                               |
| (6) | The mechanism or process for barring a bidder or Contractor from participating in                   |
|     | procurement process of a procuring agency, procuring agencies and a representation                  |
|     | under this rule is specified in the Schedule appended to these rules.                               |
| As  | per Schedule appended with PPR-14:  |
|     | SCHEDULE  |
|     | sub-rule (6) of rule 21   |
|     | ACKLISTING MECHANISM OR PROCESS   |
| 1.  | The procuring agency may, on information received from any resource, issue show                     |
|     | cause notice to a bidder or Contractor.   |
| 2.  | The show cause notice shall contain:  |
| (a) | precise allegation, against the bidder or Contractor;   |
| (b) | the maximum period for which the procuring agency proposes to debar the bidder or                   |
|     | Contractor from participating in any public procurement of the procuring agency; and                |
| I   | the statement, if needed, about the intention of the procuring agency to make a request to          |
|     | the Authority for debarring the bidder or Contractor from participating in public                   |
|     | procurements of all the procuring agencies.   |
| 3.  | The procuring agency shall give minimum of seven days to the bidder or Contractor for               |
|     | submission of written reply of the show cause notice.   |
| 4.  | In case, the bidder or Contractor fails to submit written reply within the requisite time,          |
|     | the procuring agency may issue notice for personal hearing to the bidder or Contractor/             |
|     | authorize representative of the bidder or Contractor and the procuring agency shall                 |
|     | decide the matter on the basis of available record and personal hearing, if availed.                |
| 5.  | In case the bidder or Contractor submits written reply of the show cause notice, the                |
|     | procuring agency may decide to file the matter or direct issuance of a notice to the                |
|     | bidder or Contractor for personal hearing.  |
| 6.  | The procuring agency shall give minimum of seven days to the bidder or Contractor for               |
|     | appearance before the specified officer of the procuring agency for personal hearing.               |

|                    | 7.   | The procuring agency shall decide the matter on the basis of the available record and      |  |
|--------------------|--|--|--|
|                    |  | personal hearing of the bidder or Contractor, if availed.                                  |  |
|                    | 8.   | The procuring agency shall decide the matter within fifteen days from the date of          |  |
|                    |  | personal hearing unless the personal hearing is adjourned to a next date and in            |  |
|                    |  | such an eventuality, the period of personal hearing shall be reckoned from the last date   |  |
|                    |  | of personal hearing.   |  |
|                    | 9.   | The procuring agency shall communicate to the bidder or Contractor the order of            |  |
|                    |  | debarring the bidder or Contractor from participating in any public procurement with a     |  |
|                    |  | statement that the bidder or Contractor may, within thirty days, prefer a representation   |  |
|                    |  | against the order before the Managing Director of the Authority.                           |  |
|                    | 10.  | The procuring agency shall, as soon as possible, communicate the order of blacklisting     |  |
|                    |  | to the Authority with the request to upload the information on its website.                |  |
|                    | 11.  | If the procuring agency wants the Authority to debar the bidder or Contractor from         |  |
|                    |  | participating in any public procurement of all procuring agencies, the procuring agency    |  |
|                    |  | shall specify reasons for such dispensation.   |  |
|                    | 12.  | The Authority shall immediately publish the information and decision of blacklisting on    |  |
|                    |  | its website.   |  |
|                    | 13.  | In case of request of a procuring agency under para 11 or representation of any            |  |
|                    |  | aggrieved person under rule 21, the Managing Director shall issue a notice for personal    |  |
|                    |  | hearing to the parties and call for record of proceedings of blacklisting. The parties may |  |
|                    |  | file written statements and documents in support of their contentions.                     |  |
|                    | 14.  | In case of representation of any aggrieved person or procuring agency under rule 21, the   |  |
|                    |  | Chairperson shall issue a notice for personal hearing to the parties and may call for the  |  |
|                    |  | record of the proceedings. The parties may file written statements and documents in        |  |
|                    | support of their contentions.  |  |  |
|                    | 15. In every order of blacklisting under rule 21, the procuring agency shall record reasons of |  |  |
|                    |  | blacklisting and also reasons for short, long or medium period of blacklisting.            |  |
|                    | 16.  | The Authority shall upload all the decisions under rule 21, available with it, on its      |  |
|                    |  | website. But the name of a bidder or Contractor shall immediately be removed from the      |  |
|                    |  | list of blacklisted persons on expiry of period of blacklisting or order of the competent  |  |
|                    |  | authority to that effect, whichever is earlier.  |  |
|                    | 17.  | An effort shall be made for electronic communication of all the notices and other          |  |
|                    |  | documents pursuant to this mechanism or process."  |  |
|                    |  | 1 1  |  |
|                    | iii)   | Furthermore, Bidders must keep themselves aware of the provision stated in clause 5.4      |  |
|                    |  | and clause 24.1 of the General Conditions of Contract.                                     |  |
| 2.6.9 Verification | n i)   | Procuring agency can verify any or all documents / information submitted by the bidder.    |  |
|                    | - /  | In case of bogus documents and wrong information the same would not be considered for      |  |
|                    |  | evaluation and the bid will be rejected.   |  |
|                    |  | J  |  |

# Section-III. Technical Specifications

**3.1. Technical Specifications** 

Note: (1) It is mandatory for Bidder to present pre-delivery demonstration/ Inspection to the Procuring Agency at bidder's cost. Operational manual and maintenance manual in English language both in pdf format and hard form are mandatory for all machinery, equipment, apparatus, instruments.
(2) Manufacturer's Authorization letter is mandatory for each equipment costing more than Rs. 20,000/-. Equipments of higher specifications will also be accepted.

#### **Measurements & Instrument Lab**

| <b>S.</b> # | Description   | Quantity |
|-------------|---|----------|
| 1           | Instrument Trainers                                   | 5        |
|             | Fixed Supply DC:                                      |          |
|             | +5V, -5V, +12V, -12V                                  |          |
|             | Pneumatic Supply:                                     |          |
|             | Internal Pneumatic Pump with Air Valve                |          |
|             | Signal Conditioning Circuits:                         |          |
|             | 2X Buffers  |          |
|             | Inverter  |          |
|             | Comparator with Switchable Hysteresis                 |          |
|             | 2X Amplifiers with Switchable Gain and Offset Control |          |
|             | Current Amplifier                                     |          |
|             | Summing Amplifier                                     |          |
|             | Differential Amplifier                                |          |
|             | Instrumentation Amplifier                             |          |
|             | X100 Amplifier  |          |
|             | AC amplifier  |          |
|             | Oscillator 40KHz                                      |          |
|             | Filter 40KHz  |          |
|             | Low-Pass Filter with Switchable Time Constant         |          |
|             | Precision Full-Wave Rectifier                         |          |
|             | Sample and Hold Circuit                               |          |
|             | Integrator with Switchable Time-Constant              |          |
|             | Differentiator with Switchable Time Constant          |          |
|             | V/F and F/V Converters                                |          |
|             | V/I and I/V Converters                                |          |
|             | Alarm Oscillator with Switchable Latching             |          |
|             | Power Amplifier                                       |          |
|             | Electronic Switch                                     |          |
|             | Level Converter                                       |          |
|             | Schmitt Trigger                                       |          |
|             | Wheatstone Bridge                                     |          |
|             | Input / Output Transducers:                           |          |
|             | Rotary Carbon Track                                   |          |
|             | Rotary Wirewound                                      |          |
|             | Precision Rotary Potentiometer                        |          |
|             | Slide Potentiometer                                   |          |
|             | Linear Variable Differential Transformer(LVDT)        |          |
|             |   |          |
|             | Linear Variable Capacitor<br>Load Cell 150g           |          |
|             | Dynamic Microphone                                    |          |
|             | Ultrasonic Receiver                                   |          |
|             | Ultrasonic Transmitter                                |          |
|             | Buzzer  |          |
|             |   |          |
|             | 8 Ohm Speaker   |          |
|             | Relay<br>Solenoid                                     |          |
|             |   |          |
|             | Tacho Generator                                       |          |
|             | Sensors:  |          |
|             | NTC Thermistors                                       |          |
|             | Type 'K' Thermocouples                                |          |
|             | I.C. Temperature Sensor                               |          |

| Photoconductive Cell  |  |
|---|--|
| Photovoltaic Cell   |  |
| Phototransistor   |  |
| PIN Diode   |  |
| Air-Flow Sensor   |  |
| Air Pressure Sensor   |  |
| Slotted Opto-Sensor   |  |
| Reflective Opto-Sensor  |  |
| Inductive Proximity Sensor<br>Hall Effect Sensor  |  |
| Humidity Sensor   |  |
| Measuring Devices:  |  |
| Counter / Timer   |  |
| 10-Point LED Bar Display  |  |
| Moving Coil Meter   |  |
| 3 <sup>1</sup> / <sub>2</sub> -Digit Digital Voltmeter  |  |
| 3 <sup>1</sup> / <sub>2</sub> -Digit Digital Ammeter  |  |
| Output Devices:   |  |
| Heater  |  |
| Filament Lamp   |  |
| DC Motor  |  |
| Solenoid Air Valve  |  |
| Single H-Bridge with PWM Control  |  |
| Experiments:  |  |
| <ul> <li>Study the difference between open loop and closed loop systems</li> </ul>  |  |
| • Expression for the overall gain of a negative feedback closed loop system   |  |
| • Calculation of overall gain of a negative feedback closed loop system from given  |  |
| <ul><li>information</li><li>Basic components of a closed loop system and explain their functions</li></ul>  |  |
| <ul> <li>Basic components of a closed loop system and explain their functions</li> <li>Meaning of terms associated with control system equipment</li> </ul> |  |
| <ul> <li>Positional Resistance Transducers</li> </ul>   |  |
| <ul> <li>Basic construction of rotary and slider variable resistors</li> </ul>  |  |
| <ul> <li>State that the resistance section may be either a carbon track or wire wound</li> </ul>  |  |
| <ul> <li>Characteristics of output voltage against variable control setting</li> </ul>  |  |
| • Comparison of a carbon track variable resistor to the wire wound type   |  |
| <ul> <li>Wheatstone Bridge Measurement</li> </ul>   |  |
| <ul> <li>Basics of Wheatstone Bridge circuit for resistance measurement.</li> </ul>   |  |
| <ul> <li>Describe the term "null balance".</li> </ul>   |  |
| <ul> <li>Calculation of an unknown resistance from the Bridge values at balance</li> </ul>  |  |
| <ul> <li>Factors affecting the resolution and accuracy of measurements</li> </ul>   |  |
| <ul> <li>Discuss the reason for the three-wire resistance circuit</li> </ul>  |  |
| Temperature Measurement   |  |
| Characteristic of an IC temperature sensor  |  |
| <ul> <li>Construction and characteristics of a platinum RTD resistance transducer</li> <li>Construction and characteristics of an NTC Thermistor</li> </ul> |  |
| <ul> <li>Construction and characteristics of an NTC Thermistor</li> <li>Characteristic of NTC Thermistor bridge circuits</li> </ul>                         |  |
| <ul> <li>Construction and characteristics of a Thermocouple</li> </ul>  |  |
| <ul> <li>Deduce temperatures from a voltage reading across a transducer</li> </ul>  |  |
| <ul> <li>Light Sensors</li> </ul>   |  |
| <ul> <li>Characteristics of a filament lamp</li> </ul>  |  |
| <ul> <li>Construction and characteristics of a photovoltaic cell</li> </ul>   |  |
| <ul> <li>Construction and characteristics of a phototransistor</li> </ul>   |  |
| <ul> <li>Construction and characteristics of a photoconductive cell</li> </ul>  |  |
| <ul> <li>Construction and characteristics of a PIN photodiode</li> </ul>  |  |
| <ul> <li>Linear Position or Force Applications</li> </ul>   |  |
| • Construction, principal and characteristics of a Linear Variable Differential Transformer   |  |
| (LVDT)  |  |
| <ul> <li>Construction and Characteristics of a Linear Variable Capacitor</li> </ul>   |  |
| Construction and Characteristics of a Strain Gauge  |  |
| Environmental Measurements  |  |
| • Construction and characteristics of an air flow transducer  |  |
| Construction and characteristics of an pressure transducer  |  |
| <ul> <li>Construction and characteristics of a humidity transducer</li> <li>Potetional Speed and Position Measurements</li> </ul>                           |  |
| <br><ul> <li>Rotational Speed and Position Measurements</li> </ul>  |  |
|   |  |

| <ul> <li>Slotted Opto Transducers for Counting and Speed Measurement</li> </ul>                        |    |
|--|----|
| <ul> <li>Reflective Opto Transducers and Gray Coded Disc for Position Measurement</li> </ul>           |    |
| <ul> <li>Inductive Transducers for Speed Measurement</li> </ul>  |    |
| <ul> <li>Hall Effect Transducers to Speed and Positional Measurement</li> </ul>                        |    |
| <ul> <li>Construction, Principles and Application of a Tacho-Generator to Speed Measurement</li> </ul> |    |
| Sound Measurements   |    |
| <ul> <li>Construction and characteristics of a microphone</li> </ul>                                   |    |
| <ul> <li>Construction and characteristics of an ultrasonic receiver and transmitter</li> </ul>         |    |
| <ul> <li>Comparison of various methods of measuring sound signals</li> </ul>                           |    |
| <ul> <li>Sound Output</li> </ul>   |    |
| <ul> <li>Construction and characteristics of a moving coil Speaker</li> </ul>                          |    |
| <ul> <li>Construction and characteristics of a buzzer</li> </ul>                                       |    |
| <ul> <li>Linear or Rotational Motion</li> </ul>  |    |
| <ul> <li>Construction and characteristics of a DC solenoid</li> </ul>                                  |    |
| <ul> <li>Construction and characteristics of a DC relay</li> </ul>                                     |    |
| <ul> <li>Construction and characteristics of a DC solenoid air value</li> </ul>                        |    |
| <ul> <li>Construction and characteristics of a DC permanent magnet motor</li> </ul>                    |    |
| <ul> <li>Display Devices</li> </ul>  |    |
| <ul> <li>Characteristics and application of the Timer/Counter</li> </ul>                               |    |
| <ul> <li>Characteristics and application of the LED Bargraph display</li> </ul>                        |    |
| <ul> <li>Characteristics and application of the Moving Coil Meter</li> </ul>                           |    |
| • Calculate the requirement to extend the voltage range of a Moving Coil Meter                         |    |
| <ul> <li>Selection of a suitable device for a particular voltage measurement</li> </ul>                |    |
| <ul> <li>Signal Conditioning Amplifier</li> </ul>  |    |
| <ul> <li>Characteristics and application of DC amplifiers</li> </ul>                                   |    |
| <ul> <li>The term "Offset" and the need for offset control</li> </ul>                                  |    |
| <ul> <li>Characteristics and application of an AC amplifier</li> </ul>                                 |    |
| <ul> <li>Characteristics and application of a power amplifier</li> </ul>                               |    |
| <ul> <li>Characteristics and application of a current amplifier</li> </ul>                             |    |
| <ul> <li>Characteristics and application of a buffer amplifier</li> </ul>                              |    |
| <ul> <li>Characteristics and application of an inverter amplifier</li> </ul>                           |    |
| <ul> <li>Characteristics and application of a differential amplifier</li> </ul>                        |    |
| Comparators, Oscillators & Filters   |    |
| <ul> <li>Characteristics of a comparator</li> </ul>  |    |
| • Effect of hysteresis on the operation of a comparator  |    |
| <ul> <li>Characteristics of an alarm oscillator</li> </ul>   |    |
| The term "latch" applied to an alarm oscillator  |    |
| <ul> <li>Characteristics of an electronic switch</li> </ul>  |    |
| <ul> <li>Characteristics of a 40KHz oscillator</li> </ul>  |    |
| <ul> <li>Characteristics of band pass filters</li> </ul>   |    |
| <ul> <li>Characteristics of low pass filters</li> </ul>  |    |
| <ul> <li>Proportional + integral + derivative control</li> </ul>                                       |    |
| <ul> <li>Characteristics of a speed control system</li> </ul>  |    |
| <ul> <li>Mathematical Operations using OP AMPS</li> </ul>  |    |
| <ul> <li>Characteristics of a summing amplifier</li> </ul>   |    |
| <ul> <li>Characteristics of an integrator</li> </ul>   |    |
| <ul> <li>Characteristics of a differentiator</li> </ul>  |    |
| <ul> <li>Characteristics and application of a "sample and hold" circuit</li> </ul>                     |    |
| <ul> <li>Control Systems Characteristics</li> </ul>  |    |
| <ul> <li>Characteristics of an ON/OFF system</li> </ul>  |    |
| <ul> <li>Characteristics of a Proportional system</li> </ul>   |    |
| <ul> <li>Characteristics of an Integral system</li> </ul>  |    |
| <ul> <li>Characteristics of a Derivative system</li> </ul>   |    |
| <ul> <li>Practical system 3-term (or PID) controller</li> </ul>  |    |
| <ul> <li>Practical Control Systems</li> </ul>  |    |
| <ul> <li>Characteristics of an ON/OFF temperature control system</li> </ul>                            |    |
| <ul> <li>Characteristics of a light controlled ON-OFF system</li> </ul>                                |    |
| <ul> <li>Characteristics of a positional control system having:</li> </ul>                             |    |
| <ul> <li>Proportional</li> </ul>   |    |
| <ul> <li>Proportional + integral</li> </ul>  |    |
| Proportional + derivative  |    |
| 2 Bench Digital Multimeter   | 10 |
| • DC Voltage (V) $1\mu V \sim 1000V$   | 10 |
| • AC Voltage (V) $200 \text{mV} \sim 750 \text{V}$   |    |
| - AC VORAGE (V) 20011 V ~ 750 V  | I  |

Package Name: Equipments for Measurements & Instrument Lab Package No: PUT/PMU/2023-24/17 Signature of bidder with official stamp Dated:

| <ul> <li>DCV: 0.25-0.5-2.5-10-50-250-1000</li> <li>ACV: 10-50-250-500-1000</li> <li>DC mA: 50µ A-2.5mA, 25mA-0.25A</li> <li>Ohm: X1:0~2kΩ, Midscale at 20Ω X10:0~20kΩ, Midscale at 20Ω X1k:0~2MΩ, Midscale at 20kΩ X10K:0~20MΩ, Midscale at 200kΩ</li> <li>Overload protected by fuse</li> </ul>   | 10  |
|--|-----|
| • Resistance $(\Omega) 0.001\Omega \sim 20M\Omega$<br>• Capacitance $(F) 0.001nF \sim 2mF$<br>Frequency: $0.001Hz \sim 20MHz$<br>3 Analog Multimeter<br>• DCV: $0.25 \cdot 0.5 \cdot 2.5 \cdot 10 \cdot 50 \cdot 250 \cdot 1000$<br>• ACV: $10 \cdot 50 \cdot 250 \cdot 500 \cdot 1000$<br>• DC mA: $50\mu$ A-2.5mA, $25mA \cdot 0.25A$<br>• Ohm: $X1:0 \sim 2k\Omega$ , Midscale at $20\Omega X10:0 \sim 20k\Omega$ , Midscale at $20\Omega X1k:0 \sim 2M\Omega$ , Midscale at $20k\Omega X10K:0 \sim 20M\Omega$ , Midscale at $200k\Omega$<br>Overload protected by fuse<br>4 Moving Iron Voltmeter<br>AC/DC Voltage meter<br>AC/DC Voltage meter<br>AC $3V \sim 1000V$ (6 Steps) DC $100mV \sim 1000V$ (8 Steps) $1.5\%$ (DC), $2\%$ (AC)<br>Operating frequency: $20 \sim 400Hz$<br>Fuse: Electronic protection  | -   |
| $\begin{array}{ c c c c c c } \hline & & Capacitance (F) & 0.001nF~2mF \\ \hline & & Frequency: 0.001Hz ~ 20MHz \\ \hline & & \\ \hline \hline & & \\ \hline & & \\ \hline \hline \hline \\ \hline & & \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \hline$ | -   |
| Frequency: $0.001Hz \sim 20MHz$ 3       Analog Multimeter         • DCV: $0.25 - 0.5 - 2.5 - 10 - 50 - 250 - 1000$ • ACV: $10 - 50 - 250 - 500 - 1000$ • DC mA: $50\mu$ A-2.5mA, $25mA - 0.25A$ • Ohm: $X1:0 - 2k\Omega$ , Midscale at $20\Omega$ X10: $0 - 20k\Omega$ , Midscale at $20\Omega$ X1k: $0 - 2M\Omega$ , Midscale at $20k\Omega$ X10K: $0 - 20M\Omega$ , Midscale at $200k\Omega$ • Overload protected by fuse         4       Moving Iron Voltmeter         AC/DC Voltage meter         AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)         Operating frequency: $20 - 400Hz$ Fuse: Electronic protection  | -   |
| 3       Analog Multimeter         • DCV: 0.25-0.5-2.5-10-50-250-1000         • ACV: 10-50-250-500-1000         • DC mA: 50µ A-2.5mA, 25mA-0.25A         • Ohm: X1:0~2kΩ, Midscale at 20Ω X10:0~20kΩ, Midscale at 20Ω X1k:0~2MΩ, Midscale at 20kΩ X10K:0~20MΩ, Midscale at 200kΩ         Overload protected by fuse         4       Moving Iron Voltmeter         AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)         Operating frequency: 20~400Hz         Fuse: Electronic protection   | -   |
| <ul> <li>DCV: 0.25-0.5-2.5-10-50-250-1000</li> <li>ACV: 10-50-250-500-1000</li> <li>DC mA: 50µ A-2.5mA, 25mA-0.25A</li> <li>Ohm: X1:0~2kΩ, Midscale at 20Ω X10:0~20kΩ, Midscale at 20Ω X1k:0~2MΩ, Midscale at 20kΩ X10K:0~20MΩ, Midscale at 200kΩ</li> <li>Overload protected by fuse</li> <li>4 Moving Iron Voltmeter         <ul> <li>AC/DC Voltage meter</li> <li>AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)</li> <li>Operating frequency: 20~400Hz</li> <li>Fuse: Electronic protection</li> </ul> </li> </ul>  | -   |
| <ul> <li>ACV: 10-50-250-500-1000</li> <li>DC mA: 50µ A-2.5mA, 25mA-0.25A</li> <li>Ohm: X1:0~2kΩ, Midscale at 20Ω X10:0~20kΩ, Midscale at 20Ω X1k:0~2MΩ, Midscale at 20kΩ X10K:0~20MΩ, Midscale at 200kΩ</li> <li>Overload protected by fuse</li> <li>4 Moving Iron Voltmeter         <ul> <li>AC/DC Voltage meter</li> <li>AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)</li> <li>Operating frequency: 20~400Hz</li> <li>Fuse: Electronic protection</li> </ul> </li> </ul>  | 10  |
| <ul> <li>DC mA: 50µ A-2.5mA, 25mA-0.25A</li> <li>Ohm: X1:0~2kΩ, Midscale at 20Ω X10:0~20kΩ, Midscale at 20Ω X1k:0~2MΩ, Midscale at 20kΩ X10K:0~20MΩ, Midscale at 200kΩ</li> <li>Overload protected by fuse</li> <li>4 Moving Iron Voltmeter         <ul> <li>AC/DC Voltage meter</li> <li>AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)</li> <li>Operating frequency: 20~400Hz</li> <li>Fuse: Electronic protection</li> </ul> </li> </ul>   | 10  |
| <ul> <li>DC mA: 50µ A-2.5mA, 25mA-0.25A</li> <li>Ohm: X1:0~2kΩ, Midscale at 20Ω X10:0~20kΩ, Midscale at 20Ω X1k:0~2MΩ, Midscale at 20kΩ X10K:0~20MΩ, Midscale at 200kΩ</li> <li>Overload protected by fuse</li> <li>4 Moving Iron Voltmeter         <ul> <li>AC/DC Voltage meter</li> <li>AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)</li> <li>Operating frequency: 20~400Hz</li> <li>Fuse: Electronic protection</li> </ul> </li> </ul>   | 10  |
| <ul> <li>Ohm: X1:0~2kΩ, Midscale at 20Ω X10:0~20kΩ, Midscale at 20Ω X1k:0~2MΩ, Midscale at 20kΩ X10K:0~20MΩ, Midscale at 200kΩ</li> <li>Overload protected by fuse</li> <li>4 Moving Iron Voltmeter         <ul> <li>AC/DC Voltage meter</li> <li>AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)</li> <li>Operating frequency: 20~400Hz</li> <li>Fuse: Electronic protection</li> </ul> </li> </ul>   | 10  |
| at 20kΩ X10K:0~20MΩ, Midscale at 200kΩ         Overload protected by fuse         4       Moving Iron Voltmeter         AC/DC Voltage meter         AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)         Operating frequency: 20~400Hz         Fuse: Electronic protection  | 10  |
| Overload protected by fuse         4       Moving Iron Voltmeter         AC/DC Voltage meter         AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)         Operating frequency: 20~400Hz         Fuse: Electronic protection   | 10  |
| 4 <b>Moving Iron Voltmeter</b><br>AC/DC Voltage meter<br>AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)<br>Operating frequency: 20~400Hz<br>Fuse: Electronic protection   | 10  |
| AC/DC Voltage meter<br>AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)<br>Operating frequency: 20~400Hz<br>Fuse: Electronic protection   | 10  |
| AC 3V~1000V (6 Steps) DC 100mV~1000V (8 Steps) 1.5%(DC), 2%(AC)<br>Operating frequency: 20~400Hz<br>Fuse: Electronic protection  | 10  |
| Operating frequency: 20~400Hz<br>Fuse: Electronic protection   |     |
| Fuse: Electronic protection  |     |
|  |     |
| 5 Moving Iron Ammeter  |     |
|  | 5   |
| AC/DC Current meter  |     |
| AC 10mA~10A(7 Steps)   |     |
| $DC 100uA \sim 10A(11 \text{ Steps})$  |     |
| Operating frequency: 45~400Hz  |     |
| Fuse: 1A and 10A   |     |
| 6 CTs  | 5   |
| Ratio: 30/5  | 5   |
|  | 5   |
|  | 3   |
| 10A, Leakage Current: 30mA   |     |
| 8 <b>RPM / Tachometer</b>  | 5   |
| Display: large 5 digits, 18mm LCD.   |     |
| Test select: Automatic.  |     |
| Range: 2.5 to 99,999 RPM   |     |
| Resolution: 0.1 RPM (from 2.5 to 999.9 RPM) 1 RPM (over 1,000 RPM)   |     |
| Accuracy : /-( 0.05% 1 digit)  |     |
| Distance : 50 to 500mm/ 2 to 20 inch   |     |
| Memory : Last Value. Max Value. Min RPM  |     |
| 9 Electrodynamic Wattmeter   | 5   |
| AC/DC 60-120-180- 240-360-480V(1Ph.)   | C . |
| $AC/DC60\sqrt{3}-120\sqrt{3}-180\sqrt{3}-240\sqrt{3}V(3 \text{ Ph.})$  |     |
| Operating frequency: 15~500Hz  |     |
|  | 5   |
| 10 Electro Dynamic VAR   | 5   |
| Scale: Practically linear calibration  |     |
| Scale Length: 120mm  |     |
| Mirror Under lay   |     |
| 11 Induction 'W' Meter   | 5   |
| Single Phase   |     |
| Input Voltage: 220V  |     |
| Current: 10A   |     |
| 600r/kWh   |     |
|  | 10  |
| LCR Bridge (Bench type)  | -   |
| • Frequency: 100Hz,120Hz,1kHz,10kHz  |     |
|  |     |
|  |     |
| • AC level Voltage range 0.1V,0.3V,1V  |     |
| • Main parameters: Cp,Cs,Lp,Ls,Z,R,G,Y   |     |
| Maximum input voltage : Secondary parameters D,Q,X,B,Rp,Rs, 0 r, 0 d   |     |
| • maximum input voltage . Secondary parameters D,Q,A,B,Kp,KS, 01, 00   |     |
| <ul> <li>Maximum input voltage</li> <li>Secondary parameters D,Q,A,B,Kp,Ks, 0 r, 0 d</li> <li>Display range:</li> </ul>  |     |
| • Display range:   |     |
| <ul> <li>Display range:</li> <li>R,X, Z : 0.000010 - 99.9999MΩ;</li> </ul>   |     |
| <ul> <li>Display range:</li> <li>R,X, Z : 0.000010 - 99.9999MΩ;</li> <li>G, B, Y : 0.00001µS - 999.999S;</li> </ul>  |     |
| <ul> <li>Display range:</li> <li>R,X, Z : 0.000010 - 99.9999MΩ;</li> <li>G, B, Y : 0.00001µS - 999.999S;</li> <li>L: 0.00001µH - 9.99999kH;</li> </ul>   |     |
| <ul> <li>Display range:</li> <li>R,X, Z : 0.000010 - 99.9999MΩ;</li> <li>G, B, Y : 0.00001µS - 999.999S;</li> <li>L: 0.00001µH - 9.99999kH;</li> <li>C: 0.00001pF - 999.999mF</li> </ul>   |     |
| <ul> <li>Display range:</li> <li>R,X, Z : 0.000010 - 99.9999MΩ;</li> <li>G, B, Y : 0.00001µS - 999.999S;</li> <li>L: 0.00001µH - 9.99999kH;</li> </ul>   |     |

| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$   |     |   |    |
|---|-----|---|----|
| Test end configuration: Open circuit, short circuit     Clear function: Open circuit, short circuit     Equivalent mode: Series, parallel     Kange mode: Hold, auto     Trigger mode: Internal, manual, external, bus     Mathematical operation: Direct reading, AABS, A%     Il     ICR Meter     Inductance (H): 200H-2000H     Capacitance (H): 200H-200H     Kereeneeteeteeteeteeteeteeteeteeteeteeteete  |     | • 0d:-179.999°-179.999°                                     |    |
| <ul> <li>Clear function: Open circuit, short circuit</li> <li>Fquivalent mode: Series, parallel</li> <li>Range mode: Hold, auto</li> <li>Trigger mode: Intenda, namual, external, bus</li> <li>Mathematical operation: Direct reading, AABS, A%</li> <li>I.CR Meter</li> <li>Inductance (II): 200pF-20mF</li> <li>Resistance (II): 200pF</li> <li>Input option: 1000 s/div, step by 1-2-5</li> <li>Sampling rate (real time): 1 GS/s</li> <li>Sophay: 7: Colored LCD (Liquid Crystal Display),65336 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input impedance: 1 MQL2%, in parallel with 20 pF.5 pF</li> <li>Max, input voluge: 400V (DC-4C, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div - 5 V/div</li> <li>Trigger tope: Fdgg, Video</li> <li>Trigger tope: Kdg, Video</li> <li>Trigger tope: Add, Normal, Single</li> <li>Lineffield requeres (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Ampfitude, Overshoot</li></ul>  |     |   |    |
| Equivalent mode: Series, parallel     Kange mode: Hole: Anto     Trigger mode: Internal, manual, external, bus     Mathematical operation: Direct reading, AABS, A%     If ICR Meter     Inductance (II): 20:041–20:00H     Capacitance (I): 20:041–20:00H     Capacitance (I): 20:041–20:00H     Capacitance (I): 20:041–20:00H     Capacitance (I): 20:041/2120H2/11kH2/10kH2/10kH2/10kH2     Operating voltage: 0.6Vms     Test parameters: LC/RCD/CD/Q/D/FSR     I0     Oscilloscope     I0     Oscilloscope     I0     Sample rate (real time): 1 GS/s     Display: 77 Colored LCD LCipquid Crystal Display),65536 colors, 800 x 480 pixels     Chamel: 2 channels     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Display: 77 Colored LCD LCipudid Crystal Display),65536 colors, 800 x 480 pixels     Chamel: 2 channels     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Max Record length: 10K     Sample rate (real time): 1 GS/s     Vertical Sensitivity: 5 MV/dt ~ 5 V/div     Trigger mode: Atton, Normal, Single     Trigger mode: Atton, Normal, Single     Time(Fed Inceuencey (Video): Support standard NTSC, PAL and SECAM broadcast     systerms     Automatic measurement: Recide, 7-eV, eV, PIC     Wavefor |     | • Test end configuration: Open circuit, short circuit       |    |
| • Range mode: Hold, auto       • Trigger mode: Internal, manual, external, bus         Mathematical operation: Direct reading, AABS, A%       1         13       LCR Meter       1         Inductance (II): 200F-200F       1         Resistance (I): 2002-200MQ       1         Test parameters: LCR/DCR/QD/0/ESR       10         •       •         14       Operating voltage: 0.6Vmas         •       Test parameters: LCR/DCR/QD/0/ESR         14       Oscilloscope       10         •       Bandwidth: 150 MHz       10         •       Bindwidth: 150 MHz       10         •       Bandwidth: 150 MHz       10         •       Bandwidth: 150 MHz       100 s/dw, step by 1-2-5         •       Sample rate (real time): 1 CS/s       5         •       Display, 7° Colored LCD (Liquid Crystal Display), 65536 colors, 800 x 480 pixels         •       Channel: 2 handus       10         •       Input coupling: DC, AC, IC Cuad       10         •       Input coupling: DC, AC, IC Cuad       10         •       Input coupling: DC, AC, IC C, PK - PK)       10         •       DC Gian Accuracy: 33%       10       10         •       Vertical Sensitivity: 5 mVdiv - 5 Vdiv  |     | Clear function: Open circuit, short circuit                 |    |
| • Trigger mode: Internal, manual, external, bask     1       Mathematical operation: Direct reading, AABS, A%     1       13     ICC Meter     1       Inductance (H): 200H-2000H     1       Capacitance (F): 200P-200F     Resistance (Ω): 200P-200F       Resistance (Ω): 200P-200F     1       Operating voltage: 0.6Vrms     1       Test frequency (Hz): 100H2/120H2/HE//10kHz/100kHz     0       Operating voltage: 0.6Vrms     10       Test parameters: L/C/RD/CR/QD/0/L/SR     10       14     Oscilloscope     10       8 Res Time(at input, typical): ≤ 3.5 ns     10       • Horizontal Scale: 2 ns/drv - 1000 s/div, step by 1-2.5     5       • Sampling rate (real time accuracy: ±100 ppm     1       • Input impedance: 1 MΩL22%, in parallel with 20 pf±5 pF     4       • Max, input voltage: 400V (DC+AC, PK - PK)     0       • DC Gain Accuracy: ±3%     • V/div       • Trigger mode: Auto, Normal, Single     1       • Line/field frequency (Video): Support standard NTSC, PAL and SFCAM broadcast systems     • Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Palse Width, -Palse Width, +Dary Cycle, -Dury Cycle, Delay AB, Delay AB, Cycle RMS, Cursor RMS, Storen Duty, Phase, +Palse Count, Pulse Count, Rise Edge Cut, Fall Edge Cut, Area, and Cycle Area.       • Waveform Math: +, -, ×, +ETT     • Waveform storeg: 16 waveforms </td <td></td> <td>• Equivalent mode: Series, parallel</td> <td></td>   |     | • Equivalent mode: Series, parallel                         |    |
| • Trigger mode: Internal, manual, external, bask     1       Mathematical operation: Direct reading, AABS, A%     1       13     ICC Meter     1       Inductance (H): 200H-2000H     1       Capacitance (F): 200P-200F     Resistance (Ω): 200P-200F       Resistance (Ω): 200P-200F     1       Operating voltage: 0.6Vrms     1       Test frequency (Hz): 100H2/120H2/HE//10kHz/100kHz     0       Operating voltage: 0.6Vrms     10       Test parameters: L/C/RD/CR/QD/0/L/SR     10       14     Oscilloscope     10       8 Res Time(at input, typical): ≤ 3.5 ns     10       • Horizontal Scale: 2 ns/drv - 1000 s/div, step by 1-2.5     5       • Sampling rate (real time accuracy: ±100 ppm     1       • Input impedance: 1 MΩL22%, in parallel with 20 pf±5 pF     4       • Max, input voltage: 400V (DC+AC, PK - PK)     0       • DC Gain Accuracy: ±3%     • V/div       • Trigger mode: Auto, Normal, Single     1       • Line/field frequency (Video): Support standard NTSC, PAL and SFCAM broadcast systems     • Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Palse Width, -Palse Width, +Dary Cycle, -Dury Cycle, Delay AB, Delay AB, Cycle RMS, Cursor RMS, Storen Duty, Phase, +Palse Count, Pulse Count, Rise Edge Cut, Fall Edge Cut, Area, and Cycle Area.       • Waveform Math: +, -, ×, +ETT     • Waveform storeg: 16 waveforms </td <td></td> <td>Range mode: Hold, auto</td> <td></td>  |     | Range mode: Hold, auto                                      |    |
| Mathermatical operation: Direct reading. AABS, A%       1         13       ICR Meter       1         Inductance (H): 200F-20mF       1         Resistance (D): 2002-200MΩ       1         Test prequency (Hz): 100Hz/120Hz/HHz/10kHz/10kHz       1         Operating voltage: 0.6Vms       1         Test parameters: LCRNDCR/QDD/ESR       10         I4       Oscilloscope       10         Bandwidh: 150 MHz       5.5 ns         Bandwidh: 150 MHz       10         Sample rate (real time): 1 GS/s       10         Display: 7* Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels       10         Channel: 2 channels       100 Cerver (Logid Crystal Display),65536 colors, 800 x 480 pixels         Channel: 2 channels       100 Cerver (Logid Crystal Display),65536 colors, 800 x 480 pixels         Obsiling: DC, AC, Ground       1       1         Input impedance: 1 M212%, in parallel with 20 pF±5 pF       Max, input voltage: 400% (DC+AC, PK - PK)       0         DC Gin Accuracy: ±3%       Vertical Sensitivity: 5 mV/div $- 5$ V/div       1         Trigger mode: Auto, Normal, Single       1       1         Limofield frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems       4         Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base,  |     |   |    |
| 13       LCR Meter       1         Inductance (H): 200F-20mF       Resistance (Q): 200-200MF         Resistance (Q): 200-200MF       0.00000000000000000000000000000000000  |     |   |    |
| Inductance (H): 200H-2000H<br>Capacitance (I): 200F-20mI<br>Resistance (2): 2002-200MΩ<br>Test frequency (H2): 100H2/120H2/HkH2/10kH2/10kH2<br>Operating voltage: 0.6Vms10Test parameters: LC/R/DCR/Q/D/0/LSR1014Obelioscope<br>Bandwidh: 150 MH2<br>• Bandwidh: 150 MH2<br>• Channel: 2 nxdiw - 1000 sdiw, step by 1-2-5<br>• Sample rate (real time): 1 GS/s<br>• Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels<br>• Channel: 2 channels<br>• Max Record length: 10K<br>• Sampling rate / relay time accuracy: ±100 ppm<br>• Input coupling: DC, AC, Ground<br>• Input coupling: DC, AC, Ground<br>• Input coupling: DC, AC, Ground<br>• Input coupling: DC (AC, PK - PK)<br>• D C Gain Accuracy: $\pm3\%$<br>• Vertical Sensitivity: 5 mV/div - 5 V/div<br>• Trigger mode: Auto, Normal, Single<br>• Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base,<br>Anutomatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base,<br>Anglitude, Overshoot, Preshoot, Rise Time, Fall Time, ±Pulse Width, ±Duly Width, ±Duty<br>Cycle, DMS, Curser RMS, Screen Duty,<br>Phase, ±Pulse Count, ±Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.<br>• Waveform Math: +, -, -, ×, +FT<br>• Waveform Math: +, -, -, ×, +FT<br>• Waveform Math: +, -, -, ×, +FT<br>• Waveform Storage: 16 waveforms<br>Communication interface: USB 2.0, USB flash disk storage215LUK Meter<br>Measurement Range<br>0-1999 Lax<br>20000-59000 Lax216Sound Level Meter<br>Display<br>4 digits LCD with maximum/minimum<br>Resolution: 0.14B, Display Update: 0.5 sec<br>Standard applied: #EC616/32-L Class2, ANSI S1.4 Type2<br>Frequency range: 3.4 Weighting 30 ~130dB.<br>C Weighting 35-130dB.217 <td>13</td> <td></td> <td>1</td>   | 13  |   | 1  |
|   | 15  |   | 1  |
| Resistance (0): 200-200MΩ         Test frequency (Hz): 100Hz/120Hz/1kHz/10kHz/100kHz         Operating voltage: 0.6Vrms         Test parameters: LC/R/DCRQ/D/0/ESR         14       Oscilloscope         10         Bandwidh: 150 MHz         Rise Time(at input, topical): 2.5.5 ns         Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2.5         Sample rate (real time): 1 GS/s         Display: 7° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         Channel: 2 channels         Max. Record length: 10K         Sampling rate / relay time accuracy: ±100 ppm         Input coupling: DC, AC, Ground         Trigger type: Edge, Video         Trigger mode: Auto, Normal, Single         Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems         Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, Pulse Width, -Pulse Width, -Duty Cycle, Area.         Waveform Math: +, -, ×, +, FA         • Waveform strage: 16 waveforms         Communication interface: USB 2.0, USB flash disk storage         15       LUX Meter         Measurement Range       2         0-1999 Lux       2         2000-19990 Lux       2         20000-19990 Lux       2 </td <td></td> <td></td> <td></td>  |     |   |    |
| Test frequency (H2): 100H2/120H2/100kH2/100kH2<br>Operating voltage: 0.6Vms<br>Test parameters: L/CR/DCR/Q/D/0/ESR1014Oscilloscope10• Bandwidth: 150 MHz<br>• Rise Time(at input, typical): $\leq 3.5$ ns<br>• Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5<br>• Sample rate (real time): 1 GS/s<br>• Display: 77 Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels<br>• Channel: 2 channels<br>• Max Record length: 10K<br>• Sampling rate / relay time accuracy: $\pm 100$ ppm<br>• Input coupling: DC, AC, Ground<br>• Input impedance: 1 M2±2%, in parallel with 20 pf $\pm 5$ pf<br>• Max, input voltage: 400V (DC+AC, PK - PK)<br>• DC Gain Accuracy: $\pm 3\%$<br>• Vertical Sensitivity: 5 mV/div – 5 V/div<br>• Trigger mode: $\pm 400$ , VDC+AC, PK - PK)<br>• Vertical Sensitivity: 5 mV/div – 5 V/div<br>• Trigger rope: Edge, Video<br>• Trigger mode: $\pm 400$ , VDC+AC, PK - PK, RMS, Max, Min, Top, Base,<br>Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, +Palse Width, +Pulse  |     |   |    |
| $\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$  |     |   |    |
| Test parameters: $UCR/DCR/Q/D/0/ESR$ 1014Oscilloscope10• Bandwidth: 150 MHzRise Time(at input, typical): $\leq 3.5$ ns10• Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5Sample rate (real time): 1 GS/s10• Display: 7° Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels10• Max Record length: 10KSample rate (real time): DC, AC, Ground10• Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF4040• Max Record length: 0KSampling rate / relay time accuracy: ±100 ppm10• Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF4040• Max, input voltage: 400V (DC+AC, PK + PK)DC Gain Accuracy: ±3%40• Vertical Sensitivity: 5 mV/div – 5 V/div7rigger rude: Auto, Normal, Single5• Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systemsAutomatic mesaurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, +Duse Width, 2000-0000 Law515LUX Meter5• Maveform Math: +, $-$ , $\times$ , $\pm$ FFT• Waveform storage: 16 waveforms216Sound Level Meter2Pisplay4 digits LCD with maximum/minimum<br>Resolution: 0.1dB, Display Update: 0.5 sec516Sound Level Meter2Pisplay4 digits LCD with maximum/minimum<br>Resolution: 0.1dB, Display Update: 0.5 sec<   |     |   |    |
| 14       Oscilloscope       10         • Bandwidh: 150 MHz       • Bandwidh: 150 MHz       10         • Rise Time(at input, typical): $\leq 3.5$ ns       • Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5       • Sample rate (real time): 1 GS/s         • Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels       • Channel: 2 channels       • Max Record length: 10K         • Max Record length: 10K       • Sampling rate / relay time accuracy: $\pm 100$ ppm       • Input outping: DC, AC, Ground       • Input outping: DC, AC, Ground         • Input coupling: DC, AC, Ground       • Origger mode: Auto, Normal, Single       • Origger mode: Auto, Normal, Single         • Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems       • Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Palse Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.       • Waveform Math: +, $-, \times, +, FFT$ • Waveform Math: +, $-, \times, +, FFT$ • Maxement Range       5         • Origger J6 Waveforms       2       2         • Maxement Range       5       2         • 0.1099 Lux       20000-50000 Lux       2         20000-50000 Lux       20000-50000 Lux       2         20000-50000 Lux       2 <td< td=""><td></td><td></td><td></td></td<>   |     |   |    |
| <ul> <li>Bandwidh: 150 MHz</li> <li>Rise Time(at input, typical): ≤ 3.5 ns</li> <li>Horizontal Scale: 2 ns/div - 1000 s/div, step by 1-2-5</li> <li>Sample rate (real time): 1 GS/s</li> <li>Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input impedance: 1 MΩL22%, in parallel with 20 pF±5 pF</li> <li>Max, input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 mV/div - 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, +, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>LUX Meter</li> <li>Measurement Range</li> <li>0-1999 Lux</li> <li>20000-50000 Lux</li> <l< td=""><td>1.4</td><td></td><td>10</td></l<></ul>   | 1.4 |   | 10 |
| • Rise Time(at input, typical): $\leq 3.5$ ns<br>• Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5<br>• Sample rate (real time): 1 GS/s<br>• Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels<br>• Max Record length: 10K<br>• Sampling rate / relay time accuracy: $\pm 100$ ppm<br>• Input ioupling: DC, AC, Ground<br>• Input impedance: 1 MΩ $\pm 2\%$ , in parallel with 20 pF $\pm 5$ pF<br>• Max. input voltage: 400V (DC+AC, PK - PK)<br>• DC Gain Accuracy: $\pm 3\%$<br>• Vertical Sensitivity: 5 mV/div – 5 V/div<br>• Trigger mode: Auto, Normal, Single<br>• Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast<br>systems<br>• Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base,<br>Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Vigthing 30 - 10.5 Lise Korsor RM SS, Sereen Duty, Phase, +Pulse Count, Rise Edge Cht, Fall Edge Cht, Area, and Cycle Area.15LUX Meter<br>Measurement Range<br>0-1999 Lux<br>20000-50000 Lux<br>20000-500000 Lux<br>20000-50   | 14  |   | 10 |
| • Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5         • Sample rate (real time): 1 GS/s         • Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         • Channel: 2 channels         • Max Record length: 10K         • Sampling rate / relay time accuracy: ±100 ppm         • Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF         • Max, input voltage: 400V (DC+AC, PK - PK)         • DC Gain Accuracy: ±3%         • Vertical Sensitivity: 5 mV/div – 5 V/div         • Trigger type: Edge, Video         • Trigger type: Edge, Video         • Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems         • Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, +Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Fulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         • Waveform storage: 16 waveforms       Communication interface: USB 2.0, USB flash disk storage         15       LUX Meter       5         00-1999 Lux       2000-19990 Lux         20000-50000 Lux       2         20000-50000 Lux       2         20000-50000 Lux       2         20000-50000 Lux       2         20000-19990 Lux       2         20000-19990 Lux   |     |   |    |
| • Sample rate (real time): 1 GS/s         • Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels         • Channel: 2 channels         • Max Record length: 10K         • Sampling rate / relay time accuracy: ±100 ppm         • Input coupling: DC, AC, Ground         • Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF         • Max. input voltage: 400V (DC+AC, PK - PK)         • O C Gain Accuracy: ±3%         • Vertical Sensitivity: 5 mV/div – 5 V/div         • Trigger type: Edge, Video         • Trigger type: Tedge, Video         • Trigger type: Tedge, Video         • Untomatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         • Waveform storage: 16 waveforms         Communication interface: USB 2.0, USB flash disk storage         15         I.UX Meter         20000-19990 Lux         20000-50000 Lux         16         Sound Level Meter         Display         4 digits LCD with maximum/minimum         Resolution: 0.1dB, Display Update: 0.5 sec         Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2         Fr   |     |   |    |
| <ul> <li>Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input impedance: 1 MΩ±2?ø, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 m/Vdiv - 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/Field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, -Pulye Width, -Pulye Cycle, Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Fise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>LUX Meter</li> <li>20000-19990 Lux</li> <li>20000-50000 Lux</li> <li>Sound Level Meter</li> <li>Display</li> <li>4 digits LCD with maximum/minimum</li> <li>Resolution: 0.1dB, Display Update: 0.5 sec</li> <li>Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2</li> <li>Frequency range: 31.5Hz-8K.Hz</li> <li>Measuring level range: A Weighting 30 ~130dB.</li> <li>CWeighting 35-130dB.</li> <li>Hygrometer</li> <li>Features</li> <li>With Large LCD display, easy to use.</li> <li>Can test Indoor and outdoor temperature value.</li> <li>Can test Indoor and outdoor temperature value.</li> <li>Can test Indoor and outdoor temperature, indoor humidity.</li> <li>Memory of MAX &amp; MIN measured temperature value.</li> <li>Can choose 12 hour clock.<!--</td--><td></td><td>• Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5</td><td></td></li></ul>                                   |     | • Horizontal Scale: 2 ns/div – 1000 s/div, step by 1-2-5    |    |
| <ul> <li>Display: 7" Colored LCD (Liquid Crystal Display),65536 colors, 800 x 480 pixels</li> <li>Channel: 2 channels</li> <li>Max Record length: 10K</li> <li>Sampling rate / relay time accuracy: ±100 ppm</li> <li>Input coupling: DC, AC, Ground</li> <li>Input impedance: 1 MΩ±2?ø, in parallel with 20 pF±5 pF</li> <li>Max. input voltage: 400V (DC+AC, PK - PK)</li> <li>DC Gain Accuracy: ±3%</li> <li>Vertical Sensitivity: 5 m/Vdiv - 5 V/div</li> <li>Trigger type: Edge, Video</li> <li>Trigger type: Edge, Video</li> <li>Trigger mode: Auto, Normal, Single</li> <li>Line/Field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, -Pulye Width, -Pulye Cycle, Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Pulse Count, Fise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>LUX Meter</li> <li>20000-19990 Lux</li> <li>20000-50000 Lux</li> <li>Sound Level Meter</li> <li>Display</li> <li>4 digits LCD with maximum/minimum</li> <li>Resolution: 0.1dB, Display Update: 0.5 sec</li> <li>Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2</li> <li>Frequency range: 31.5Hz-8K.Hz</li> <li>Measuring level range: A Weighting 30 ~130dB.</li> <li>CWeighting 35-130dB.</li> <li>Hygrometer</li> <li>Features</li> <li>With Large LCD display, easy to use.</li> <li>Can test Indoor and outdoor temperature value.</li> <li>Can test Indoor and outdoor temperature value.</li> <li>Can test Indoor and outdoor temperature, indoor humidity.</li> <li>Memory of MAX &amp; MIN measured temperature value.</li> <li>Can choose 12 hour clock.<!--</td--><td></td><td>• Sample rate (real time): 1 GS/s</td><td></td></li></ul>  |     | • Sample rate (real time): 1 GS/s                           |    |
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| • Max Record length: 10K         • Sampling rate / relay time accuracy: ±100 ppm         • Input coupling: DC, AC, Ground         • Input impedance: 1 MΩ±2%, in parallel with 20 pF±5 pF         • Max. input voltage: 400V (DC+AC, PK - PK)         • DC Gain Accuracy: ±3%         • Vertical Sensitivity: 5 mV/div – 5 V/div         • Trigger type: Edge, Video         • Trigger mode: Auto, Normal, Single         • Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems         • Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, Nise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         • Waveform storage: 16 waveforms         Communication interface: USB 2.0, USB flash disk storage         15       LUX Meter         Measurement Range       5         0-1999 Lux       20000-50000 Lux         20000-19990 Lux       20000-19990 Lux         20000-50000 Lux       2         20000-1990 Lux       2  |     |   |    |
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| <ul> <li>Line/field frequency (Video): Support standard NTSC, PAL and SECAM broadcast systems</li> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base, Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty, Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms</li> <li>Communication interface: USB 2.0, USB flash disk storage</li> <li>LUX Meter</li> <li>Measurement Range</li> <li>0~1999 Lux</li> <li>20000-19990 Lux</li> <li>20000-19990 Lux</li> <li>20000-50000 Lux</li> <li>4 digits LCD with maximum/minimum</li> <li>Resolution: 0.1dB, Display Update: 0.5 sec</li> <li>Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2</li> <li>Frequency range: 31.5Hz~8KHz</li> <li>Measuring level range: A Weighting 30~130dB.</li> <li>C Weighting 35~130dB.</li> <li>17 Hygrometer</li> <li>22 With Large LCD display, easy to use.</li> <li>Can test Indoor and outdoor temperature, indoor humidity.</li> <li>Memory of MAX &amp; MIN measured temperature value.</li> <li>Can choose 12 hour or 24 hour clock.</li> <li>Celsius degree °C or Fahrenheit °F unit selectable.</li> </ul>   |     |   |    |
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| <ul> <li>Automatic measurement: Period, Frequency, Mean, PK-PK, RMS, Max, Min, Top, Base,<br/>Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty<br/>Cycle, -Duty Cycle, Delay A→B, Delay A→B, Cycle RMS, Cursor RMS, Screen Duty,<br/>Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.</li> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms<br/>Communication interface: USB 2.0, USB flash disk storage</li> <li>LUX Meter</li> <li>Measurement Range</li> <li>0~1999 Lux</li> <li>2000~50000 Lux</li> <li>Sound Level Meter</li> <li>Quite Close Close</li></ul>       |     |   |    |
| Amplitude, Overshoot, Preshoot, Rise Time, Fall Time, +Pulse Width, -Pulse Width, +Duty<br>Cycle, -Duty Cycle, Delay $A \rightarrow B$ , Delay $A \rightarrow B$ , Cycle RMS, Cursor RMS, Screen Duty,<br>Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.• Waveform Math: +, -, ×, $\div$ , FFT• Waveform storage: 16 waveforms<br>Communication interface: USB 2.0, USB flash disk storage15LUX Meter0~1999 Lux<br>2000~50000 Lux2000~50000 Lux16Sound Level Meter<br>Display<br>4 digits LCD with maximum/minimum<br>Resolution: 0.1dB, Display Update: 0.5 sec<br>Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2<br>Frequency range: 31.5Hz~8KHz<br>Measuring level range: A Weighting 30~130dB.<br>C Weighting 35~130dB.17Hygrometer<br>Features<br>   |     |   |    |
| Cycle, -Duty Cycle, Delay $A \rightarrow B$ , Delay $A \rightarrow B$ , Cycle RMS, Cursor RMS, Screen Duty,<br>Phase, +Pulse Count, -Pulse Count, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.• Waveform Math: +, -, ×, +, FFT• Waveform storage: 16 waveforms<br>Communication interface: USB 2.0, USB flash disk storage15LUX Meter5Measurement Range<br>0~1999 Lux<br>2000~50000 Lux16Sound Level Meter17Display<br>4 digits LCD with maximum/minimum<br>Resolution: 0.1dB, Display Update: 0.5 sec<br>Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2<br>Frequency range: 31.5Hz~8KHz<br>Measuring level range: A Weighting 30~130dB.<br>C Weighting 35~130dB.17Hygrometer<br>Features0With Large LCD display, easy to use.<br>Can test Indoor and outdoor temperature, indoor humidity.<br>Can test Indoor and outdoor temperature value.<br>Can choose 12 hour or 24 hour clock.0Can choose 12 hour or 24 hour clock.<br>C Celsius degree °C or Fahrenheit °F unit selectable.  |     |   |    |
| Phase, +Pulse Court, Pulse Court, Rise Edge Cnt, Fall Edge Cnt, Area, and Cycle Area.         • Waveform Math: +, -, ×, ÷, FFT         • Waveform storage: 16 waveforms         Communication interface: USB 2.0, USB flash disk storage         15       LUX Meter         Measurement Range       5         0-1999 Lux       2000~19990 Lux         2000~50000 Lux       2         16       Sound Level Meter       2         Display       4 digits LCD with maximum/minimum       2         Resolution: 0.1dB, Display Update: 0.5 sec       Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2         Frequency range: 31.5Hz~8KHz       Measuring level range: A Weighting 30 ~130dB.         C Weighting 35~130dB.       2         17       Hygrometer       2         Features       • With Large LCD display, easy to use.       2         • Can test Indoor and outdoor temperature, indoor humidity.       • Memory of MAX & MIN measured temperature value.         • Can choose 12 hour or 24 hour clock.       • Celsius degree °C or Fahrenheit °F unit selectable.   |     |   |    |
| <ul> <li>Waveform Math: +, -, ×, ÷, FFT</li> <li>Waveform storage: 16 waveforms<br/>Communication interface: USB 2.0, USB flash disk storage</li> <li>LUX Meter</li> <li>Measurement Range</li> <li>0~1999 Lux</li> <li>20000~50000 Lux</li> <li>Sound Level Meter</li> <li>2</li> <li>Display</li> <li>4 digits LCD with maximum/minimum</li> <li>Resolution: 0.1dB, Display Update: 0.5 sec</li> <li>Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2</li> <li>Frequency range: 31.5HZ~8KHz</li> <li>Measuring level range: A Weighting 30~130dB.</li> <li>C Weighting 35~130dB.</li> <li>17</li> <li>Hygrometer</li> <li>Can test Indoor and outdoor temperature, indoor humidity.</li> <li>Memory of MAX &amp; MIN measured temperature value.</li> <li>Can choose 12 hour or 24 hour clock.</li> <li>Celsius degree °C or Fahrenheit °F unit selectable.</li> </ul>  |     |   |    |
| <ul> <li>Waveform storage: 16 waveforms<br/>Communication interface: USB 2.0, USB flash disk storage</li> <li>LUX Meter</li> <li>LUX Meter</li> <li>Measurement Range</li> <li>0~1999 Lux</li> <li>2000~19990 Lux</li> <li>2000~20000 Lux</li> <li>Sound Level Meter</li> <li>Sound Level Meter</li> <li>Display</li> <li>4 digits LCD with maximum/minimum</li> <li>Resolution: 0.1dB, Display Update: 0.5 sec</li> <li>Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2</li> <li>Frequency range: 31.5Hz~8KHz</li> <li>Measuring level range: A Weighting 30~130dB.</li> <li>C Weighting 35~130dB.</li> <li>Hygrometer</li> <li>Can test Indoor and outdoor temperature, indoor humidity.</li> <li>Memory of MAX &amp; MIN measured temperature value.</li> <li>Can choose 12 hour or 24 hour clock.</li> <li>Celsius degree °C or Fahrenheit °F unit selectable.</li> </ul>  |     |   |    |
| Communication interface: USB 2.0, USB flash disk storage       5         15       LUX Meter       5         Measurement Range       0~1999 Lux       2000~19990 Lux         2000~19990 Lux       20000-50000 Lux       2         16       Sound Level Meter       2         Display       4 digits LCD with maximum/minimum       2         Resolution: 0.1dB, Display Update: 0.5 sec       Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2       7         Frequency range: 31.5Hz~8KHz       Measuring level range: A Weighting 30 ~130dB.       2         17       Hygrometer       2         Features       •       With Large LCD display, easy to use.       2         •       Can test Indoor and outdoor temperature, indoor humidity.       2         •       Memory of MAX & MIN measured temperature value.       2         •       Can choose 12 hour or 24 hour clock.       2   |     | • Waveform Math: $+, -, \times, \div, FFT$                  |    |
| Communication interface: USB 2.0, USB flash disk storage       5         15       LUX Meter       5         Measurement Range       0~1999 Lux       2000~19990 Lux         2000~19990 Lux       20000-50000 Lux       2         16       Sound Level Meter       2         Display       4 digits LCD with maximum/minimum       2         Resolution: 0.1dB, Display Update: 0.5 sec       Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2       7         Frequency range: 31.5Hz~8KHz       Measuring level range: A Weighting 30 ~130dB.       2         17       Hygrometer       2         Features       •       With Large LCD display, easy to use.       2         •       Can test Indoor and outdoor temperature, indoor humidity.       2         •       Memory of MAX & MIN measured temperature value.       2         •       Can choose 12 hour or 24 hour clock.       2   |     | • Waveform storage: 16 waveforms                            |    |
| 15       LUX Meter       5         Measurement Range       0~1999 Lux       2000~19990 Lux         2000~19990 Lux       20000~50000 Lux       2         16       Sound Level Meter       2         Display       4 digits LCD with maximum/minimum       2         Resolution: 0.1dB, Display Update: 0.5 sec       2         Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2       Frequency range: 31.5Hz~8KHz         Measuring level range: A Weighting 30 ~130dB.       2         C Weighting 35~130dB.       2         17       Hygrometer       2         Features       • With Large LCD display, easy to use.       2         • Can test Indoor and outdoor temperature, indoor humidity.       • Memory of MAX & MIN measured temperature value.       2         • Can choose 12 hour or 24 hour clock.       • Celsius degree °C or Fahrenheit °F unit selectable.       5  |     |   |    |
| Measurement Range       0~1999 Lux         2000~19990 Lux       2000~30000 Lux         16       Sound Level Meter       2         Display       4 digits LCD with maximum/minimum       2         Resolution: 0.1dB, Display Update: 0.5 sec       Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2         Frequency range: 31.5Hz~8KHz       Measuring level range: A Weighting 30 ~130dB.         C Weighting 35~130dB.       2         17       Hygrometer       2         Features       0         With Large LCD display, easy to use.       2         Can test Indoor and outdoor temperature, indoor humidity.       4         Memory of MAX & MIN measured temperature value.       2         Can choose 12 hour or 24 hour clock.       5         Celsius degree °C or Fahrenheit °F unit selectable.       4   | 15  |   | 5  |
| 0~1999 Lux       2000~19990 Lux         20000~50000 Lux       2         16       Sound Level Meter       2         Display       4 digits LCD with maximum/minimum       2         Resolution: 0.1dB, Display Update: 0.5 sec       5         Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2       Frequency range: 31.5Hz~8KHz         Measuring level range: A Weighting 30 ~130dB.       2         C Weighting 35~130dB.       2         17       Hygrometer       2         Features       •         • With Large LCD display, easy to use.       •         • Can test Indoor and outdoor temperature, indoor humidity.       •         • Memory of MAX & MIN measured temperature value.       •         • Can choose 12 hour or 24 hour clock.       •         • Celsius degree °C or Fahrenheit °F unit selectable.       •  |     |   | -  |
| 2000~19990 Lux       2         16       Sound Level Meter       2         Display       4 digits LCD with maximum/minimum       2         Resolution: 0.1dB, Display Update: 0.5 sec       2         Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2       7         Frequency range: 31.5Hz~8KHz       Measuring level range: A Weighting 30 ~130dB.         C Weighting 35~130dB.       2         17       Hygrometer       2         Features       •       With Large LCD display, easy to use.         • Can test Indoor and outdoor temperature, indoor humidity.       •       Memory of MAX & MIN measured temperature value.         • Can choose 12 hour or 24 hour clock.       • Celsius degree °C or Fahrenheit °F unit selectable.       9   |     |   |    |
| 20000~50000 Lux       2         16       Sound Level Meter       2         Display       4 digits LCD with maximum/minimum       2         Resolution: 0.1dB, Display Update: 0.5 sec       2         Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2       7         Frequency range: 31.5Hz~8KHz       7         Measuring level range: A Weighting 30 ~130dB.       2         C Weighting 35~130dB.       2         17       Hygrometer       2         Features       9         With Large LCD display, easy to use.       2         Can test Indoor and outdoor temperature, indoor humidity.       2         Memory of MAX & MIN measured temperature value.       6 Can choose 12 hour or 24 hour clock.         C Celsius degree °C or Fahrenheit °F unit selectable.       2  |     |   |    |
| 16       Sound Level Meter       2         Display       4 digits LCD with maximum/minimum       2         Resolution: 0.1dB, Display Update: 0.5 sec       5       2         Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2       Frequency range: 31.5Hz~8KHz       2         Measuring level range: A Weighting 30 ~130dB.       2         17       Hygrometer       2         Features       9       With Large LCD display, easy to use.       2         • Can test Indoor and outdoor temperature, indoor humidity.       9       2         • Can choose 12 hour or 24 hour clock.       • Celsius degree °C or Fahrenheit °F unit selectable.       2  |     |   |    |
| Display       4 digits LCD with maximum/minimum         Resolution: 0.1dB, Display Update: 0.5 sec       5tandard applied: IEC61672-1 Class2, ANSI S1.4 Type2         Frequency range: 31.5Hz~8KHz       Measuring level range: A Weighting 30 ~130dB.         C Weighting 35~130dB.       C         17       Hygrometer       2         Features       0         With Large LCD display, easy to use.       2         Can test Indoor and outdoor temperature, indoor humidity.       0         Memory of MAX & MIN measured temperature value.       0         Can choose 12 hour or 24 hour clock.       0         Celsius degree °C or Fahrenheit °F unit selectable.       0   | 16  |   | 2  |
| 4 digits LCD with maximum/minimum         Resolution: 0.1dB, Display Update: 0.5 sec         Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2         Frequency range: 31.5Hz~8KHz         Measuring level range: A Weighting 30 ~130dB.         C Weighting 35~130dB.         17       Hygrometer         Features         • With Large LCD display, easy to use.         • Can test Indoor and outdoor temperature, indoor humidity.         • Memory of MAX & MIN measured temperature value.         • Can choose 12 hour or 24 hour clock.         • Celsius degree °C or Fahrenheit °F unit selectable.   | 10  |   | 2  |
| Resolution: 0.1dB, Display Update: 0.5 sec         Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2         Frequency range: 31.5Hz~8KHz         Measuring level range: A Weighting 30 ~130dB.         C Weighting 35~130dB.         17       Hygrometer         Features         • With Large LCD display, easy to use.         • Can test Indoor and outdoor temperature, indoor humidity.         • Memory of MAX & MIN measured temperature value.         • Can choose 12 hour or 24 hour clock.         • Celsius degree °C or Fahrenheit °F unit selectable.   |     |   |    |
| Standard applied: IEC61672-1 Class2, ANSI S1.4 Type2         Frequency range: 31.5Hz~8KHz         Measuring level range: A Weighting 30 ~130dB.         C Weighting 35~130dB.         17       Hygrometer         Features         • With Large LCD display, easy to use.         • Can test Indoor and outdoor temperature, indoor humidity.         • Memory of MAX & MIN measured temperature value.         • Can choose 12 hour or 24 hour clock.         • Celsius degree °C or Fahrenheit °F unit selectable.  |     | 8   |    |
| Frequency range: 31.5Hz~8KHz         Measuring level range: A Weighting 30 ~130dB.         C Weighting 35~130dB.         17       Hygrometer         Features         • With Large LCD display, easy to use.         • Can test Indoor and outdoor temperature, indoor humidity.         • Memory of MAX & MIN measured temperature value.         • Can choose 12 hour or 24 hour clock.         • Celsius degree °C or Fahrenheit °F unit selectable.   |     |   |    |
| Measuring level range: A Weighting 30 ~130dB.       C Weighting 35~130dB.         17       Hygrometer       2         Features       • With Large LCD display, easy to use.       2         • Can test Indoor and outdoor temperature, indoor humidity.       • Memory of MAX & MIN measured temperature value.       2         • Can choose 12 hour or 24 hour clock.       • Celsius degree °C or Fahrenheit °F unit selectable.       1  |     |   |    |
| C Weighting 35~130dB.       2         17       Hygrometer<br>Features       2         • With Large LCD display, easy to use.       2         • Can test Indoor and outdoor temperature, indoor humidity.       2         • Memory of MAX & MIN measured temperature value.       2         • Can choose 12 hour or 24 hour clock.       2         • Celsius degree °C or Fahrenheit °F unit selectable.       2   |     |   |    |
| 17       Hygrometer       2         Features       • With Large LCD display, easy to use.       2         • With Large LCD display, easy to use.       • Can test Indoor and outdoor temperature, indoor humidity.       • Memory of MAX & MIN measured temperature value.         • Can choose 12 hour or 24 hour clock.       • Celsius degree °C or Fahrenheit °F unit selectable.       •   |     |   |    |
| <ul> <li>Features</li> <li>With Large LCD display, easy to use.</li> <li>Can test Indoor and outdoor temperature, indoor humidity.</li> <li>Memory of MAX &amp; MIN measured temperature value.</li> <li>Can choose 12 hour or 24 hour clock.</li> <li>Celsius degree °C or Fahrenheit °F unit selectable.</li> </ul>   |     |   | -  |
| <ul> <li>With Large LCD display, easy to use.</li> <li>Can test Indoor and outdoor temperature, indoor humidity.</li> <li>Memory of MAX &amp; MIN measured temperature value.</li> <li>Can choose 12 hour or 24 hour clock.</li> <li>Celsius degree °C or Fahrenheit °F unit selectable.</li> </ul>   | 17  |   | 2  |
| <ul> <li>Can test Indoor and outdoor temperature, indoor humidity.</li> <li>Memory of MAX &amp; MIN measured temperature value.</li> <li>Can choose 12 hour or 24 hour clock.</li> <li>Celsius degree °C or Fahrenheit °F unit selectable.</li> </ul>   |     |   |    |
| <ul> <li>Memory of MAX &amp; MIN measured temperature value.</li> <li>Can choose 12 hour or 24 hour clock.</li> <li>Celsius degree °C or Fahrenheit °F unit selectable.</li> </ul>  |     |   |    |
| <ul> <li>Memory of MAX &amp; MIN measured temperature value.</li> <li>Can choose 12 hour or 24 hour clock.</li> <li>Celsius degree °C or Fahrenheit °F unit selectable.</li> </ul>  |     | • Can test Indoor and outdoor temperature, indoor humidity. |    |
| <ul> <li>Can choose 12 hour or 24 hour clock.</li> <li>Celsius degree °C or Fahrenheit °F unit selectable.</li> </ul>   |     |   |    |
| • Celsius degree °C or Fahrenheit °F unit selectable.   |     |   |    |
|   |     |   |    |
| • Have Clock, Date & Calendar function (month and date).  |     |   |    |
|   |     |   |    |

|    | • You can set clock alarm.  |    |
|----|---|----|
|    | <ul><li>You can place it on desk or hang on Wall.</li></ul>                                 |    |
|    | Low power consumption, battery can use for a long time.                                     |    |
| 18 |   | 5  |
| 10 | Strain Gauges<br>350 Ohm strain gauges  | 3  |
| 19 | Load Cells Different Types  | 5  |
| 19 | 50kg beam type load cell  | 5  |
| 20 | Experimental Tables (Bench Stations)  | 5  |
| 20 | Table size: L=72", W=36", H=32", next shelf height=18", 3 side walls height=24", 6" top     | 5  |
|    |   |    |
|    | open<br>Frame size: L=69", W=33", H=31" of MS Box section 1.5" x 2.5", 18 gauge with hammer |    |
|    | silver paint,   |    |
|    | Top and shelve thickness= $2 \times 32$ mm win-board duly polished as requirement.          |    |
|    | Plastic shoes for each leg  |    |
|    | Along with power connection of 4 sockets with one switch on both ends near top shelves as   |    |
|    | per given drawing.  |    |
|    | Bidder has to provide sample at the time of bid opening at university Campus                |    |
| 21 | Contingencies (components, cables etc.) one set   | 1  |
| 21 | Wire Strippers/Cutters (6") 20pcs   | 1  |
|    |   |    |
|    |   |    |
|    | • Digital Callipers 10pcs   |    |
|    | • Safety Equipment (Safety helmet, Safety goggles, safety gloves, safety shoes) 10 Set      |    |
|    | • Storage Containers (Drawer Size: 8" x 12", 4 drawers in each cabinet) (Qty: 4             |    |
|    | cabinets)   |    |
|    | • Labels and Markers (Board Markers: 10pcs, Sticky Notes (Labels): 10pcs)                   |    |
|    | <ul> <li>Magnifying Glass 3" (Qty: 10pcs)</li> </ul>  |    |
|    | Ball Pein Hammer 24oz Qty1pc  |    |
|    | Combination Plier 8" (Qty: 5pcs)  |    |
|    | • Long Nose Plier 6" (Qty: 5pcs)  |    |
|    | • 8PCS DOUBLE OPEN END SPANNER SET, 6×7mm 8×9mm 10×11mm                                     |    |
|    | 12×13mm 14×15mm 16×17mm 18×19mm 20×22mm (Qty: 1pc)  |    |
|    | • Square Steel 12" (Qty: 2pcs)  |    |
|    | • Screwdriver sets,   |    |
|    | SL6*38mm SL5*75mm SL6*100mm PH2*38mm PH1*75mm   |    |
|    | PH2*100mm, (Qty: 1pc)   |    |
|    | • 5pcs Steel file set size:8" (1 pc)  |    |
|    | • Tool Kit (Qty: 1 Set) consists of Lineman's pliers: 165mm                                 |    |
|    | Side cutting pliers: 125 mm   |    |
|    | Long nose pliers: 150 mm  |    |
|    | Soldering iron stand with sponge  |    |
|    | Desoldering pump  |    |
|    | Ceramic soldering iron  |    |
|    | screwdriver: 3.2x75 mm  |    |
|    | screwdriver: #0x75 mm   |    |
|    | screwdriver: 5.0x75 mm  |    |
|    | screwdriver: #1x75 mm   |    |
| 1  | screwdriver: 6.0x100 mm   |    |
|    | screwdriver: #2x100 mm  |    |
| 1  | screwdriver: 3/16"  |    |
|    | screwdriver: 1/4"   |    |
| 1  | Electronic screwdriver set (6 pcs.)   |    |
|    | Professional multimeter   |    |
| 1  | Folding type hex key set (7 pcs.)   |    |
| 1  | PVC insulated tape  |    |
|    | Solder core   |    |
|    | • Allen Key Set (7pcs)  |    |
|    | Blower 400W   |    |
| 23 | Multi output DC Power Supply  | 10 |
| 1  | Regulated DC Power Supply (30V, 5A)   |    |
| 1  | • CH1: 0-30V, 5A  |    |
| 1  | • CH2: 0-30V, 5A  |    |
| 1  | • CH3: 5V, 3A   |    |
|    |   |    |

|    | • Load Regulation: 0.01% + 5mv  |   |
|----|---|---|
|    | Parallel Mode, Series Mode  |   |
|    | OVP/OCP Function  |   |
|    | Number of Characters: 16  |   |
| 24 | Function Generators (25MHz)   | 1 |
|    | • Sampling Rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k    |   |
|    | • 5 Basic Waveforms and 32 arbitrary waveforms in-built                         |   |
|    | Pulse wave output set in edge time  |   |
|    | • Internal/external AM, FM, PM, ASK, FSK and PSK modulation function.           |   |
|    | • Output of linear/logarithmic frequency sweep and burst waveform.              |   |
|    | • Frequency meter of high precision of 100MHz and 32-bit counter                |   |
|    | <ul> <li>File management supporting USB flash disk and local storage</li> </ul> |   |
|    | Two-channel output with the highest output frequency                            |   |
| 25 | Galvanometer  | 1 |
|    | Bench Type  |   |
|    |   |   |
|    | Specifications:   |   |
|    | Measurement ranges: $\pm 35 \ \mu A$  |   |
|    | Scale division: 1 µA  |   |
|    | Internal resistance: 1000 Ohm, $\pm$ 50 mV                                      |   |
|    | Accuracy: class 2.0   |   |
| 26 | Digital Counters  | 6 |
|    | <b>D</b> 0.0000   |   |
|    | Range : 0-9999  |   |
|    | Voltage : 110/220v  |   |

## Section-IV: Bid Data Sheet

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB) Section II. Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

|   |                                     | A. Introduction  |  |  |  |  |  |
|---|-------------------------------------|--|--|--|--|--|--|
| BDS<br>Clause<br>Number   | ITB<br>Number                       | Amendments of, and Supplements to, Clauses in the Instruction to Bidders   |  |  |  |  |  |
| 1.  | 2.1.1                               | Name of Procuring Agency: <b>Punjab university of Technology Rasul</b><br>The subject of procurement is: Equipments for Measurements & Instrument Lab<br>Period for delivery of goods: <b>90 days</b><br>Commencement date for delivery of Goods: <b>immediately on signing the contract and issuance of</b><br><b>Procurement/Supply order</b>  |  |  |  |  |  |
| 2. 2.1.2 Financial year for the operations of the Procuring Agency: 2023-24<br>Name of Project: Provision of Infrastructural, Academic and Operational Facilitie<br>Punjab University of Technology Rasul MB Din<br>Name of financing institution: Government of Punjab (Development Fund)<br>Name and identification number of the Contract: Equipments for Measurements & Instrum<br>(PUT/PMU/2023-24/17) |                                     |  |  |  |  |  |  |
| 3.  | 2.1.3                               | provide relevant certificates of non-debarred/ non-blacklisting, NTN, STRN, non-bankrupt, non-<br>involvement in corrupt and fraudulent practices  |  |  |  |  |  |
| 4.  | 2.1.4                               | Ineligible countries are: India and Israel   |  |  |  |  |  |
| 5.  | 2.3.6 (iii)                         | Authorization by manufacturer/dealer/seller: required on Form 8.3<br>Qualification requirements. The potential bidder must also fulfill the following:<br>Technical Brochures of goods quoted, mentioning its specifications, manufacturer's Brand and<br>model etc.   |  |  |  |  |  |
|   |                                     | B. Bidding Documents   |  |  |  |  |  |
| 6.  | 2.2.2<br>(i)                        | The address for clarification of Bidding Documents: Procurement Officer, Punjab University of Technology Rasul. 0336-1031892, email: rasulian786@gmail.com   |  |  |  |  |  |
| 7.  | 2.2.2 (iv)<br>2.2.2(v)<br>2.2.2(vi) | Date of Uploading of responses to clarifications (if any) on procuring agency website: on 21-9-23.<br>Pre-bid meeting will be held on 18-09-2023 at 11:00AM in conference room of PUT Rasul<br>Minutes of Meeting along with clarification will be uploaded on PUT Rasul website on 21-9-23.   |  |  |  |  |  |
| 8.  | 2.3.9                               | The number of bidding documents to be completed and returned is in <b>one original and one copy</b> .  |  |  |  |  |  |
|   | C.                                  | Bid Price, Currency, Language and Country of Origin  |  |  |  |  |  |
| 9   | 2.3.1                               | Language of the bid – English and other documents brochures etc., if not available in English will be provided after translation in English language by approved translation agency.   |  |  |  |  |  |
| 10  | 2.3.4                               | The Full and final prices shall be quoted in <b>Pak Rupees</b><br>The price quoted shall be Delivered Duty Paid.   |  |  |  |  |  |
| 11.   | 2.3.4                               | The Full and final prices shall be quoted in <b>Pak Rupees</b>   |  |  |  |  |  |
| 12.   | 2.1.4 (ii)                          | Country of origin: Origin in eligible source countries, as per policy of Govt. of Pakistan   |  |  |  |  |  |
|   |                                     | D. Preparation and Submission of Bids  |  |  |  |  |  |
| 13.   | 2.1.3                               | Qualification Criteria/Knock down criteria.  |  |  |  |  |  |
|   |                                     | <ul> <li>a) NTN registration certificate of firm. Attested copy</li> <li>b) General Sales Tax registration certificate of firm. Attested copy</li> <li>c) Active Tax Payer Status FBR</li> <li>d) Professional Tax certificate 2022 or latest. Attested copy</li> <li>e) Average Annual Turnover for last 5 years must be Rs. 50 million or More (provide last 05 years "2018,2019, 2020, 2021 &amp; 2022" Income Tax Returns)</li> <li>f) Technical Brochures of goods quoted, mentioning its specifications, manufacture's Brand and model.</li> <li>g) certificate of legally and financially autonomous &amp; operation of non-dependency to Government under commercial law (for Government-owned enterprises).</li> <li>h) Firm must be in operation from last 05 years (NTN registration 05 years old)</li> <li>i) Technical Brochures/ catalogues of goods quoted MUST be attached</li> <li>j) An affidavit on legal stamp paper worth Rs. 300 to the effect that</li> </ul> |  |  |  |  |  |

Signature of bidder with official stamp Dated:

| 14. | 2.3.6&2.<br>3.7 | <ul> <li>Bidder is neither currently blacklisted or debarred from any government / semi-Government organization nor is any litigation pending in this regard.</li> <li>The documents/photocopies provided with Bid are authentic. In case of any fake/bogus document found at any stage, the Bidder shall be blacklisted as per Law/ Rules.</li> <li>The provided information is correct.</li> <li>Bidder is authorized for supply of goods for this tender from the manufacturer /authorized Partner/ distributor/ dealer/ seller as given in specifications (provide certificates form 8.3)</li> <li>Registration of the Bidder with relevant forums/ organizations.</li> <li>Spare parts may be required for <u>05</u> years of operation.</li> </ul> |
|-----|-----------------|--|
|     |                 | within 07 days for parts available in Pakistan and within 60 days for foreign spare parts.   |
| 15. | 2.4.2 (i)       | Bid shall be submitted to:<br>Project Director, Punjab University of Technology Rasul, 13-km, Sarai Alamgir Road, Mandi<br>Bahauddin.  |
| 16. | 2.4.2 (ii)      | Deadline for Bid submission: As per Advertisement of this package and can be amended as per need.  |
| 17. | 2.5.1           | Time, date/ Month/ Year, and place for Bid opening.<br>30 minutes after closing time of bid submission in Conference Room of Punjab University of<br>Technology Rasul, 13-km, Sarai Alamgir Road, Mandi Bahauddin.   |
| 18. | 2.6.2           | Amount of Performance Guarantee is: <u>ten percent (10%) of the contract amount in shape of Bank</u><br><u>Guarantee, Call Deposit in favour of Punjab University of Technology Rasul valid for warranty</u><br><u>period.</u>   |
| 19. | 2.3.7           | Estimated Contract Price is: Rs. <u>22,287,000/</u><br>Amount of Bid security is about 2% of estimated price= <u>Rs. 445,800/-</u><br><u>Bid security in shape of Call Deposit Receipt (CDR) in favour of Punjab University of</u><br><u>Technology Rasul valid for warranty period.</u>   |
| 20. | 2.3.8           | Bid validity period after opening of the Bid is: <b>120 days</b>   |
| 21. | 2.3.9           | Number of copies of the Bid to be provided are: <u>one original &amp; one copy</u>   |
|     | 1               | E. Opening and Evaluation of Bids  |
| 22. | 2.5.1           | The Bid opening shall take place at: <u>As per advertisement, 30 minutes after closing time of bid</u> <u>submission.</u>  |
| 23. | 2.3.5           | The currency that shall be used for Bid evaluation and comparison purposes only in Pak Rupees.   |
|     |                 |  |

## F. Bid Evaluation Criteria

| 1. Ev        | valuation Criteria  | uution       |  |  |  |
|--------------|---|--------------|--|--|--|
| ITB<br>2.5.8 | <b>Criteria for bid evaluation:</b> Lowest Delivered Duty Paid (DDP) Total Price package wise offered by the qualified responsive bidder.   |              |  |  |  |
|              | <b>A- Mandatory Criteria</b><br>As per Qualification Criteria given above/ Kno  | ock dowr     | n criteria   |  |  |
|              | B- Marking Criteria   |              |  |  |  |
| Sec.#        | Description   | Max<br>Marks | Marks Allocation   |  |  |
| 1            | Company Profile, Experience etc.  | (35)         |  |  |  |
| i.           | Experience in years / Market Existence<br>From the date of NTN Registration<br>(NTN Certificate must be attached)   | 10           | Less than 5 years= 0 marks<br>5 years= 6 marks<br>1 Marks per year above 5 years<br>(Maximum 10 Marks) |  |  |
| ii.          | Value of Projects in public sector<br>Cost of Supply/ Installation having similar nature &<br>of value 10 million or above over last 05 years in<br>public sector.<br>(Purchase orders OR supply orders OR<br>completion certificates must be attached,<br>otherwise, no marks shall be awarded.) | 15           | 03 marks Per Project/ supply<br>(Maximum 15 Marks)   |  |  |
| iii.         | <b>Relevant Experience</b><br>Experience of Supply / Installation having similar<br>nature over last 05 years (5 supplies max.)   | 10           | 02 marks Per Project/ supply<br>(Maximum 10 Marks)   |  |  |

|      | (Purchase orders OR supply orders OR<br>completion certificates must be attached,<br>otherwise, no marks shall be awarded.)  |       |   |
|------|--|-------|---|
| 2    | Financial Position   | (30)  |   |
| i.   | Sum of Annual Sales /Annual Turnover (Last five<br>years)<br>(Signed and stamped statement along with tax<br>return last 05 years (2018, 2019, 2020, 2021 &<br>2022) must be attached, otherwise, no marks<br>shall be awarded.) | 15    | 30+ to 60 Million       3 Marks         60+ to 90 Million       6 Marks         90+ to 120 Million       9 Marks         120+ to 150 Million       12 Marks         Above 150 Million       15 Marks         (Maximum 15 Marks)   |
| ii.  | Fixed Assets (Current)<br>(Documentary proof of tax return required)   | 05    | 1.0 to 5.0 Million2 Marks5.0 + to 10 Million4 MarksAbove 10 Million5 Marks(Maximum 05 Marks)  |
| iii. | <b>Tax Return</b><br>Active Tax Payer for Financial Year<br>2018, 2019, 2020, 2021 & 2022.   | 05    | 1 Mark per year<br>(Maximum 05 Marks)   |
| iv.  | Bank Balance / Credit Limit<br>If bank balance / credit limit up-to <u>June, 2023</u> - is<br>equal to 10 Million or more, full marks may be<br>awarded.   | 05    | Otherwise, the marks may be awarded as:<br><u>Closing Balance or Credit Limit</u> x 05<br>10 million  |
| 3.   | Set up for Provision of After Sale Service<br>(Certificate must be attached and Address,<br>telephone and e-mail be provided)  | (05)  | Certificate provided 05 Marks<br>Certificate not provided 0 Marks<br>(Maximum 05 Marks)   |
| 4.   | HR, Infrastructure & Satisfactory Supply proof   | (15)  |   |
| i    | HR/ Staff Strength (Payroll of-June 2023)<br>Technical Staff (Diploma / Degree holder)<br>List of Staff along with qualification must be<br>attached and related final degree/ diploma/<br>transcripts.                          | 10    | 1.5 Marks per 16-year degree holder max=06<br>1 mark for Diploma max=04<br>(Maximum 10 Marks)   |
| ii   | Letter of Satisfaction after sale service by the<br>client who has purchase of minimum 05 million<br>Please attach satisfaction/ appreciation letter<br>(In case of missing information, no mark may<br>be awarded.)             | 05    | 01 mark for each certificate<br>( <b>Maximum 05 marks</b> )   |
| 5    | <ul> <li>Company Presentation &amp; Product<br/>Demonstration= (10)</li> <li>Repair and Maintenance Facilities<br/>Demonstration (05)</li> <li>(Must provide videos for both in USB)</li> </ul>                                  | (15)  | To be assigned by the Technical Committee<br>(Bidder is required to give demonstration of quote<br>products and have the capability to Repair an<br>Maintenance the products for 5 years, in soft form i<br>USB duly sealed. Evaluation committee may deman<br>physical demonstration |
|      | TOTAL MARKS  | (100) |   |

**Note:** Supporting documents (where demanded) must be attached otherwise no marks would be awarded. The successful bidder will have to give the demonstration of quoted items at PUT Rasul. Qualifying Marks 50% in each section is mandatory

Minimum 65% marks are mandatory in this stage.

### G. Award of Contract

| 2.6.5 | Percentage for quantity increase or decrease is: 15%  |
|-------|---|
| 2.6.2 | The Performance Guarantee shall be: ten percent (10%) of the contract amount                        |
| 2.6.2 | The Performance Security (or guarantee) shall be in the form of: CDR or Bank Guarantee in favour of |
|       | Punjab University of Technology Rasul valid for warranty period.                                    |

## Section V. General Conditions of Contract

|             | Sect        | UII  |   |
|-------------|-------------|------|---|
| 1.          | Definitions | 1.1  | In this Contract, the following terms shall be interpreted as indicated:  |
|             |             |      | (a) "The Contract" means the agreement entered into between the   |
|             |             |      | Procuring Agency and the Supplier, as recorded in the Contract  |
|             |             |      | Form signed by the parties, including all attachments and   |
|             |             |      | appendices thereto and all documents incorporated by reference  |
|             |             |      | therein.  |
|             |             |      | (b) "The Contract Price" means the price payable to the Supplier under  |
|             |             |      | the Contract for the full and proper performance of its contractual   |
|             |             |      | obligations.  |
|             |             |      | (c) "The Goods" means all the equipment, machinery, and/or other  |
|             |             |      | materials which the Supplier is required to supply to the Procuring   |
|             |             |      | Agency under the Contract.  |
|             |             |      | (d) "The Services" means those services ancillary to the supply of the  |
|             |             |      | Goods, such as transportation and insurance, and any other  |
|             |             |      | incidental services, such as installation, commissioning, provision   |
|             |             |      | of technical assistance, training, and other such obligations of the  |
|             |             |      | Supplier covered under the Contract.  |
|             |             |      | (e) "GCC" means the General Conditions of Contract contained in this  |
|             |             |      | section.  |
|             |             |      | (f) "SCC" means the Special Conditions of Contract.   |
|             |             |      | (g) "The Procuring Agency" means the organization purchasing the Goods, as named in SCC.  |
|             |             |      | <ul><li>(h) "The Procuring Agency's country" is Islamic Republic of Pakistan.</li></ul>   |
|             |             |      | <ul><li>(i) "The Supplier" means the individual or firm supplying the Goods</li></ul>   |
|             |             |      | and Services under this Contract.   |
|             |             |      | (j) "The Project Site," where applicable, means the place or places   |
|             |             |      | mentioned in the Form of Bid  |
|             |             |      | (k) "Day" means calendar day.   |
| 2.          | Application | 2.1  | These General Conditions shall apply to the extent that they are not superseded   |
|             | ppnearion   |      | by provisions of other parts of the Contract.   |
| 3.          | Country of  | 3.1  | All Goods and Services supplied under the Contract shall have their origin in the   |
| 5.          | - · · ·     | 5.1  | countries and territories eligible under the rules, as further elaborated in the SCC.   |
|             | Origin      | 3.2  |   |
|             |             | 5.2  | For purposes of this Clause, "origin" means the place where the Goods were<br>mined, grown, or produced, or from which the Services are supplied. Goods are   |
|             |             |      | produced when, through manufacturing, processing, or substantial and major  |
|             |             |      | assembly of components, a commercially recognized new product results that is   |
|             |             |      | substantially different in basic characteristics or in purpose or utility from its  |
|             |             |      | components.   |
|             |             | 3.3  | The origin of Goods and Services is distinct from the nationality of the Supplier.  |
| <b>3</b> a. | One person  | 3.4  | In any procurement, one bidder may submit one bid of a specific package and if  |
|             | one bid     |      | one bidder submits more than one bids of the same package, the procuring agency   |
|             |             |      | shall reject all such bids. However, one bidder may bid for one or more packages.   |
| <b>4.</b> S | tandards    | 4.1. | The Goods supplied under this Contract shall conform to the standards   |
|             |             |      | mentioned in the Technical Specifications, and, when no applicable standard is  |
|             |             |      | mentioned, to the authoritative standards appropriate to the Goods' country of  |
|             |             |      | origin. Such standards shall be the latest issued by the concerned institution.   |
| 5.          | Use of      | 5.1  | The Supplier shall not, without the Procuring Agency's prior written consent,   |
|             | Contract    |      | disclose the Contract, or any provision thereof, or any specification, plan,  |
|             | Documents   |      | drawing, pattern, sample, or information furnished by or on behalf of the<br>Production Agency in connection therewith to any person other than a person      |
|             | and         |      | Procuring Agency in connection therewith, to any person other than a person<br>employed by the Supplier in the performance of the Contract. Disclosure to any |
| L           |             | 1    | employed by the supplier in the performance of the Contract. Disclosure to any  |

|    | Information;                       |     | such employed person shall be made in confidence and shall extend only so far  |
|----|------------------------------------|-----|--|
|    | Inspection                         | 5.2 | as may be necessary for purposes of such performance.  |
|    | and Audit by<br>the31<br>Procuring | 5.2 | The Supplier shall not, without the Procuring Agency's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.   |
|    | agency.                            | 5.3 | Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring Agency and shall be returned (all copies) to the Procuring Agency on completion of the Supplier's performance under the Contract if so required by the Procuring Agency.   |
|    |                                    | 5.4 | The Supplier shall permit the Procuring Agency to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the donors, if so required by the donors.  |
| 6. | Patent Rights                      | 6.1 | The Supplier shall indemnify the Procuring Agency against all third-party claims<br>of infringement of patent, trademark, or industrial design rights arising from use<br>of the Goods or any part thereof in the Procuring Agency's country.  |
| 7. | Performance<br>Guarantee           | 7.1 | Within seven (07) days of receipt of letter of intent/ notification of contract award, the successful Bidder shall furnish to the Procuring Agency the performance guarantee in the amount specified in SCC/ BDS & clause 2.6.2 of ITB.  |
|    |                                    | 7.2 | The proceeds of the performance guarantee shall be payable to the Procuring<br>Agency as compensation for any loss resulting from the Supplier's failure to<br>complete its obligations under the Contract.  |
|    |                                    | 7.3 | The performance guarantee shall be denominated in the currency of the Contract acceptable to the Procuring Agency and shall be in one of the following forms:  |
|    |                                    |     | <ul> <li>(a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in Pakistan, in the form provided in the Bidding documents or another form acceptable to the Procuring Agency; or</li> </ul>   |
|    |                                    |     | (b) a Bank Guarantee or Bank call-deposit (CDR),   |
|    |                                    |     | (c) In case of expiry of performance guarantee, the contractor shall<br>renew the performance guarantee valid for warranty period, if<br>required by the procuring agency  |
|    |                                    | 7.4 | The performance guarantee will be discharged by the Procuring Agency and<br>returned to the Supplier not later than thirty (30) days following the date of<br>completion of the Supplier's performance obligations under the Contract,<br>including any warranty obligations, unless specified otherwise in SCC.   |
| 8. | Inspections<br>and Tests           | 8.1 | The Procuring Agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring Agency. <b>SCC and the Technical Specifications</b> shall specify what inspections and tests the Procuring Agency requires and where they are to be conducted. The Procuring Agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes. |
|    |                                    | 8.2 | The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery, and/or at the Goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Procuring Agency.   |
|    |                                    | 8.3 | Should any inspected or tested Goods fail to conform to the Specifications, the<br>Procuring Agency may reject the Goods, and the Supplier shall either replace the  |

|                               | rejected Goods or make alterations necessary to meet specification requirements free of cost to the Procuring Agency.  |
|-------------------------------|--|
|                               | 8.4 The Procuring Agency post-delivery right to inspect, test and, where necessary, reject the goods after the Goods' arrival in the Procuring Agency's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Procuring Agency or its representative prior to the Goods' shipment from the country of origin.  |
|                               | 8.5 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.  |
| 9. Packing                    | 9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit. |
|                               | 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the Procuring Agency.  |
| 10. Delivery and<br>Documents | <ul><li>10.1 Delivery of the Goods shall be made by the Supplier in accordance with the Form of bid. The details of delivery and/or other documents to be furnished by the Supplier are specified in SCC 5.</li></ul>  |
|                               | 10.2 The contractor will be responsible for delivery, installation & commissioning (if any) as per procurement order in safe, sound and in operational condition at its own risk & cost as per delivery schedule mentioned in <i>"bid data sheet"</i> after issuance of procurement order. Delivery period can be extended by the Procuring Agency on the written request of the contractor, giving compelling reasons for delay in delivery.  |
|                               | <ul> <li>10.3. For purposes of the Contract, DDP trade term used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of Incoterms</li> <li>10.4. Documents to be submitted by the Supplier are specified in SCC.</li> </ul>   |
| 11. Insurance                 | 11.1 The Goods supplied under the Contract shall be delivered duty paid (DDP) under<br>which risk is transferred to the buyer after having been delivered, hence<br>insurance coverage is seller's responsibility.   |
| 12. Transportation            | 12.1 The Supplier is required under the Contact to transport the Goods to a specified place of destination within the Procuring Agency's country, transport to such place of destination in the Procuring Agency's country, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.  |
| 13. Incidental<br>Services    | <ul> <li>13.1 The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:</li> <li>(a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;</li> </ul>   |
|                               | (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;  |
|                               | (c) furnishing of a detailed operations and maintenance manual in <b>English</b> for each appropriate unit of the supplied Goods;  |
|                               | (d) In case of specialized items, supplier will provide necessary training<br>to the PUT Rasul staff / faculty free of cost on-site, in assembly,<br>start-up, operation, maintenance, and repair of the supplied Goods.   |

|                 | The terms and conditions for such training, may however, be<br>mutually decided between the PUT Rasul and the successful<br>bidders, if so required.   |
|-----------------|--|
| 14. Spare Parts | <ul> <li>13.2. Prices charged by the Supplier for incidental services shall be included in the Contract Price for the Goods and shall not exceed: <ul> <li>(i) the prevailing rates charged for other parties by the Supplier for similar services; and</li> <li>(ii) original price of goods.</li> </ul> </li> <li>14.1 The Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:</li> </ul>     |
|                 | (a) such spare parts as the Procuring Agency may elect to purchase<br>from the Supplier, provided that this election shall not relieve the<br>Supplier of any warranty obligations under the Contract; and   |
|                 | (b) in the event of termination of production of the spare parts:  |
|                 | <ul> <li>(i) advance notification to the Procuring Agency of the pending<br/>termination, in sufficient time to permit the Procuring Agency to<br/>procure needed requirements; and</li> </ul>   |
|                 | <ul> <li>(ii) following such termination, furnishing at no cost to the Procuring<br/>Agency, the blueprints, drawings, and specifications of the spare<br/>parts, if requested.</li> </ul>   |
|                 | 14.2 Lowest evaluated bidder must provide spare parts of the supplied items at market rate at any time after warranty period as per requirement of Procuring Agency.   |
| 15. Warranty    | 15.1 The Supplier warrants that the Goods supplied under the Contract are new,<br>unused, The Supplier further warrants that all Goods supplied under this Contract<br>shall have no defect, arising from design, materials, or workmanship (except<br>when the design and/or material is required by the Procuring Agency's<br>specifications) or from any act or omission of the Supplier, that may develop<br>under normal use of the supplied Goods in the conditions prevailing in the<br>country of final destination. |
|                 | 15.2 Bidders must provide <b>one-year free</b> comprehensive onsite warranty, which must include labor, parts replacement and any other related service. Warranty period will be started after completion of scope of work.  |
|                 | 15.3 The Procuring Agency shall promptly notify the Supplier in writing of any claims arising under this warranty.   |
|                 | 15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Procuring Agency.   |
|                 | 15.5 If the Supplier, having been notified, fails to rectify the defect(s) within the period specified in SCC, within a reasonable period, the Procuring Agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring Agency may have against the Supplier under the Contract/ relevant provision of PPA-14 including Blacklisting.   |
| 16. Payment     | 16.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.  |
|                 | 16.2 The Supplier's request(s) for payment shall be made to the Procuring Agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to SCC Clause 12, and upon fulfillment of other obligations stipulated in the Contract.   |

|     |  | 16.2  | The summer of assument is Dale Dunces   |
|-----|--|-------|---|
|     |  |       | The currency of payment is <b>Pak. Rupees.</b>  |
| 17. | Prices                                     | 17.1  | Prices charged by the Supplier for Goods delivered and Services performed<br>under the Contract shall not vary from the prices quoted by the Supplier in its<br>bid, with the exception of any price adjustments authorized in SCC or in the<br>Procuring Agency's request for bid validity extension, as the case may be.  |
| 18. | Change<br>Orders                           | 18.1  | <ul> <li>The Procuring Agency may at any time, by a written order given to the Supplier, make changes within the general scope of the Contract in any one or more of the following:</li> <li>(a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Procuring Agency;</li> <li>(b) the method of shipment or packing;</li> <li>(c) the place of delivery; and/or</li> <li>(d) the Services to be provided by the Supplier.</li> <li>If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Procuring Agency's change order. But, in no case, the overall impact of the change should exceed 15% of the contract cost and no provisions of PPR-14 should be violated.</li> </ul> |
| 19. | Contract<br>Amendments                     | 19.1  | No variation in or modification of the terms of the Contract shall be made except<br>by written amendment signed by the parties. No variation in finalized brands/<br>makes/models shall be allowed except in special conditions where the<br>manufacturer has stopped producing or suspended that model or the latest model<br>of similar series or version has been launched by the manufacturer or non-<br>availability due to international mergers of the manufacturers or similar<br>unavoidable constraints.   |
| 20. | Assignment                                 | 20.1  | The Supplier shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Procuring Agency's prior written consent.   |
| 21. | Sub-contracts                              | 21.1  | If supplier awarded sub-contracts, such award shall not relieve the Supplier from<br>any liability or obligation under the Contract.  |
|     |  | 21.2. | Subcontracts must comply with the provisions of GCC Clause 20.  |
| 22. | Delays in the<br>Supplier's<br>Performance | 22.1  | Delivery of the Goods and performance of services shall be made by the Supplier<br>in accordance with the time schedule prescribed by the Procuring Agency in the<br>Schedule of Requirements.  |
|     |  | 22.2  | If at any time during performance of the Contract, the Supplier or its subcontractor(s) encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Procuring Agency in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Procuring Agency shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.  |
|     |  | 22.3  | Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.  |

| 23. | Liquidated<br>Damages      | 23.1 Subject to the Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to GCC Clause 24 along with other remedies available under PPR-14.  |
|-----|----------------------------|--|
| 24. | Termination<br>for Default | 24.1 The Procuring Agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:   |
|     |                            | <ul> <li>(a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract / bidding documents, or within any extension thereof granted by the Procuring Agency pursuant to GCC Clause 22; or</li> </ul>   |
|     |                            | (b) if the Supplier fails to perform any other obligation(s) under the Contract.   |
|     |                            | <ul><li>(c) if the Supplier, in the judgment of the Procuring Agency has engaged in<br/>corrupt or fraudulent practices in competing for or in executing the<br/>Contract.</li></ul>   |
|     |                            | For the purpose of this clause:  |
|     |                            | (d) "corrupt practice" means the offering, giving, receiving, or soliciting of<br>anything of value to influence the action of a public official, bidder or<br>Contractor in the procurement process or in Contract execution to the<br>detriment of the procuring agency; or misrepresentation of facts in order<br>to influence a procurement process or the execution of a Contract,<br>collusive practices among bidders (prior to or after bid submission)<br>designed to establish bid prices at artificial, noncompetitive levels and<br>to deprive the procuring agency of the benefits of free and open<br>competition and any request for, or solicitation of anything of value by<br>any public official in the course of the exercise of his duty; it may<br>include any of the following: |
|     |                            | i. coercive practice by impairing or harming, or threatening to impair or<br>harm, directly or indirectly, any party or the property of the party to<br>influence the actions of a party to achieve a wrongful gain or to cause<br>a wrongful loss to another party;   |
|     |                            | ii. collusive practice by arrangement between two or more parties to the procurement process or Contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;  |
|     |                            | <ul> <li>iii. offering, giving, receiving or soliciting, directly or indirectly, of<br/>anything of value to influence the acts of another party for wrongful<br/>gain;</li> </ul>   |
|     |                            | <ul> <li>any act or omission, including a misrepresentation, that knowingly or<br/>recklessly misleads, or attempts to mislead, a party to obtain a<br/>financial or other benefit or to avoid an obligation;</li> </ul>   |

|     |                                   | v    | . obstructive practice by harming or threatening to harm, directly or  |
|-----|-----------------------------------|------|--|
|     |                                   |      | indirectly, persons or their property to influence their participation in a<br>procurement process, or affect the execution of a Contract or<br>deliberately destroying, falsifying, altering or concealing of evidence<br>material to the investigation or making false statements before<br>investigators in order to materially impede an investigation into<br>allegations of a corrupt, fraudulent, coercive or collusive practice; or<br>threatening, harassing or intimidating any party to prevent it from<br>disclosing its knowledge of matters relevant to the investigation or from<br>pursuing the investigation, or acts intended to materially impede the<br>exercise of inspection and audit process |
|     |                                   | v    | i The Contractor may inform the date of placement of order to the foreign<br>Principal / manufacturer, in case of items to be imported within 15 days<br>of issuance of purchase order, if required by the Procuring Agency. If<br>supplier fails to place order within 15 days of the issuance of purchase<br>order and does not provide the aforementioned information (if required<br>by the Procuring Agency), the contract may be considered for<br>termination or cancellation.  |
|     |                                   |      | On the happening of any of the above event, the performance guarantee will be forfeited.   |
|     |                                   | 24.2 | In the event the Procuring Agency terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Procuring Agency may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Procuring Agency for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.   |
| 25. | Force<br>Majeure                  | 25.1 | Notwithstanding the provisions of GCC Clauses 22, 23, and 24, the Supplier shall<br>not be liable for forfeiture of its performance guarantee, liquidated damages, or<br>termination for default if and to the extent that its delay in performance or other<br>failure to perform its obligations under the Contract is the result of an event of<br>Force Majeure.   |
|     |                                   | 25.2 | For purposes of this clause, "Force Majeure" means wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes etc.  |
|     |                                   | 25.3 | If a Force Majeure situation arises, the Supplier shall promptly notify the Procuring Agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring Agency in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.  |
|     |                                   | 25.4 | The procuring agency may extend the delivery period in case of force majeure with or without imposing penalty.   |
| 26. | Termination<br>for Insolvency     | 26.1 | The Procuring Agency may at any time terminate the Contract by giving written<br>notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent.<br>In this event, termination will be without compensation to the Supplier, provided<br>that such termination will not prejudice or affect any right of action or remedy<br>which has accrued or will accrue thereafter to the Procuring Agency.  |
| 27. | Termination<br>for<br>Convenience | 27.1 | The Procuring Agency, by written notice sent to the Supplier, may terminate the<br>Contract, in whole or in part, at any time for its convenience. The notice of<br>termination shall specify that termination is for the Procuring Agency's<br>convenience, the extent to which performance of the Supplier under the Contract<br>is terminated, and the date upon which such termination becomes effective.  |

| 34. | Repeat Order              | 34.1 The contractor may provide Machinery & Equipment on repeat order (not exceeding 15% of the original procurement order) under the provision of Punjab Procurement Rules 2014, if asked for.   |
|-----|---------------------------|---|
| 33. | Provision of<br>Sample    | 33.1 The procuring agency can demand sample of any good for checking the performance and quality of the machinery / equipment. On satisfactory performance of the sample, the bidder will be responsible for delivery of the same. In case performance or quality of the sample is not satisfactory the procuring agency can reject the same and the bid will be technically dis-qualified.   |
| 32. | Taxes and<br>Duties       | 32.1 Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Procuring Agency.   |
|     |                           | <ul><li>31.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.</li></ul>  |
| 31. | Notices                   | 31.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by e-mail and confirmed in writing to the other party's address specified in SCC.  |
| 30. | Applicable<br>Law         | 30.1 The Contract shall be interpreted in accordance with the laws of Punjab (Pakistan) unless otherwise specified in SCC.  |
| 29. | Governing<br>Language     | 29.1 The Contract shall be written in the language specified in SCC. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.  |
|     |                           | 28.2 If, after thirty (30) days from the commencement of such informal negotiations, the Procuring Agency and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed and/or arbitration as per rule 68 of PPR-14 and in accordance with Arbitration Act-1940. |
| 28. | Resolution of<br>Disputes | 28.1 The Procuring Agency and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.  |
|     |                           | <ul> <li>(a) to have any portion completed and delivered at the Contract terms and prices; and/or</li> <li>(b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Services and for materials and parts previously procured by the Supplier.</li> </ul>  |
|     |                           | 27.2 The Goods that are complete and ready for shipment within thirty (30) days after<br>the Supplier's receipt of notice of termination shall be accepted by the Procuring<br>Agency at the Contract terms and prices. For the remaining Goods, the Procuring<br>Agency may elect:   |

# Section VI. Special Conditions of Contract

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

| 1.    | Definitions (GCC<br>Clause 1)                | GCC 1.1 (g)The Procuring Agency is: Punjab University of Technology RasulGCC 1.1 (h)The Procuring Agency's country is: Islamic Republic of PakistanGCC 1.1 (i)The Supplier is: [Bidder to provide detail here]GCC 1.1 (j)The Project Site is: PUT Rasul, 13km Sarai Alamgir Road, Mandi<br>Bahauddin.  |
|-------|--|--|
| 2.    | Country of<br>Origin                         | GCC Clause 3 All countries except India & Israel   |
| 3.    | Performance<br>guarantee (GCC<br>Clause 7)   | 3.1 The amount of performance guarantee, as a percentage of the Contract Price, shall be 10% (Ten per cent of the contract price) in the shape of non-recourse, irrevocable and unconditional bank guarantee or any form as per GCC 7 from scheduled bank of Pakistan on the prescribed format attached with the bidding document.   |
| 4.    | Inspections and<br>Tests (GCC<br>Clause 8)   | <ul> <li>4.1 Pre-delivery / Post-delivery Inspection will be arranged at PUT Rasul. The acceptance parameters are as following: <ol> <li>Confirming to the contractual specifications of items</li> <li>Satisfactory performance of functional test of the equipment</li> <li>Proper test report will be prepared with functional compliance and physical attributes of Equipment, if conducted</li> </ol> </li> </ul>   |
| 5. Pa | acking (GCC<br>Clause 9)                     | Packing should ensure safe and sound delivery at site.   |
| 6.    | Delivery and<br>Documents (GCC<br>Clause 10) | <ul> <li>6.1 Upon delivery, the Supplier shall provide the following documents to the Procuring Agency: <ul> <li>(i) copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;</li> <li>(ii) original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;</li> <li>(iii) copies of the packing list identifying contents of each package;</li> <li>(iv) insurance certificate;</li> <li>(v) Manufacturer's or Supplier's warranty certificate;</li> <li>(vi) Where applicable (Pre shipment/ port/ Procuring Agency Delivery site, inspection certificate), issued by the Procuring Agency nominated inspection agency, and the Supplier's factory inspection report (Inspection type depends on the nature of procurement and volume of procurement); and</li> <li>(vii) Certificate of origin.</li> <li>Note: The above documents at Sr.# (i) would be required even if the equipment has already been imported and is available with the supplier exstock.</li> </ul> </li> </ul> |
| 7.    | Insurance (GCC<br>Clause 11)                 | 7.1 The Goods supplied under the Contract shall be Delivered Duty Paid (DDP) under which risk is transferred to the Buyer after having been delivered. Hence insurance coverage is seller's responsibility. Since the Insurance is seller's responsibility, they may arrange appropriate coverage.   |
| 8.    | Incidental<br>Services (GCC<br>Clause 13)    | <ul> <li>8.1 Incidental services to be provided are:</li> <li>a. At site complete training of Procuring Agency's nominated staff free of cost regarding maintenance and operation of Goods (if required by Procuring Agency).</li> </ul>   |

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|                                    | b. At site preventive maintenance on quarterly basis by the bidder's qualified   |  |
|------------------------------------|--|--|
|                                    | staff for one year, without extra cost, starting from final acceptance of goods.   |  |
| 9. Spare Parts                     | GCC 14.1 Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the Goods. Other spare parts and components shall be supplied as promptly as possible, but in any case, within seven (7) days for local and within two (2) months for foreign be supplied of placing the order and opening the letter of credit.   |  |
| 10. Warranty (GCC<br>Clause 15)    | 10.1 In accordance with the provisions, the warranty period shall be <b>12 months</b> (parts and labor warranty etc.) from date of Final Acceptance of the Goods. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, at its discretion, either: |  |
|                                    | (a) Make such changes, modifications, and/or additions to the Goods or any<br>part thereof as may be necessary in order to attain the contractual<br>guarantees specified in the Contract at its own cost and expense and to<br>carry out further performance tests in accordance with SCC 4,  |  |
|                                    | or   |  |
|                                    | (b) Pay liquidated damages to the Procuring Agency with respect to the failure<br>to meet the contractual guarantees. The rate of these liquidated damages<br>shall be 0.2 % of the late delivered goods per day. The maximum amount<br>of liquidated damages for the whole of the goods or part thereof shall be<br>10% of the contract price.  |  |
|                                    | Or   |  |
|                                    | (c) Replacement of the whole unit at site including transportation, installation, testing & commissioning etc. in case of major defect at his own cost.  |  |
|                                    | GCC 15.4 & 15.5—the period for correction of defects in the warranty period is 7 days.   |  |
| 11. Sample Provision               | 11.1 GCC 33.1 "Samples of any good(s) be provided for demonstration by the supplier on his own cost on the demand of technical evaluation committee".  |  |
| 12. Payment (GCC<br>Clause 16)     | 12.1 GCC 16.1-The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:   |  |
|                                    | Payment in Pak Rupees will be made through cross cheque after delivery, installation and commissioning of the machinery/ equipment after inspection at PUT Rasul. The contractor shall provide all necessary supporting documents along with invoice for payment.  |  |
| 13. Taxes (GCC<br>Clause 32)       | 13.1 PUT Rasul shall deduct all applicable taxes at the prevailing rate prescribed by the Govt., from all payments submitted by the contractor. Change in the rate of tax announced by the Govt. from time to time will be applicable for the purpose of deduction of tax.   |  |
| 14. Prices (GCC                    | 14.1 Prices shall be: Fixed and shall not be adjusted.   |  |
| Clause 17)<br>15. Liquidated       | 15.1 GCC 23.1-Applicable rate: 0.2 % of late delivered goods per day   |  |
| Damages (GCC<br>Clause 23)         | 15.2 Maximum deduction: 10 % of contract price   |  |
| 16. Resolution of<br>Disputes (GCC | 16.1 The dispute resolution mechanism to be applied pursuant to GCC Clause 28.2 shall be as follows:   |  |
| Clause 28)                         | In the case of a dispute between the Procuring Agency and the Supplier, the dispute shall be referred to conciliation mediated by a third party, adjudication or arbitration in accordance with the Pakistan Arbitration Act, 1940.  |  |

| 17. | Governing<br>Language (GCC<br>Clause 29) | 14.1  | The Governing Language shall be: English.   |
|-----|--|-------|---|
| 18. | Applicable Law<br>(GCC Clause 30)        | 18.1  | The procurement process will be governed under Punjab Procurement Rules – 2014 or latest. The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan which includes the following legislation:   |
|     |  |       | <ul><li>a. The Contract Act 1872.</li><li>b. The Arbitration Act 1940</li></ul>   |
| 19. | Change of Model                          | 19.1  | In case of end of manufacturing of quoted model at the time of delivery, latest / upgraded model of same brand fulfilling all specifications of quoted model may be accepted on the recommendations of relevant technical expert (s) with the approval of Procurement Committee. However, contractor has to provide all necessary documents pertaining to end of quoted model for the satisfaction of procuring agency / Committee. |
| 20. | Notices (GCC<br>Clause 31)               | 20.1  | Procuring Agency's address for notice purposes: Office of Convener, Procurement Committee,  |
|     |  |       | Punjab University of Technology Rasul, 13km, Sarai Alamgir Road, Mandi<br>Bahauddin.<br>Tel: 0546-553216 Tel: 0546-553354   |
|     |  | 20.2  | Supplier's address for notice purposes:   |
|     |  | Pleas | e provide:  |
|     |  |       |   |

## Section VII. Schedule of Requirements

#### 7.1 Schedule of Requirements

The delivery schedule expressed as weeks/months stipulates a delivery date which is the date at which delivery is required. Number Description

#### **Delivery schedule** (shipment) Quantity

#### In 90 days from date of signing contract

In order to determine the correct date of delivery hereafter specified, the Procuring Agency has taken into account the additional time that will be needed for international or national transit to the Project Site or to another common place.

#### **Measurements & Instrument Lab**

| <b>S.</b> # | Description  | Quantity | Delivery schedule<br>(shipment) in days |
|-------------|--|----------|---|
| 1           | Instrument Trainers                                | 5        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |
| 2           | Bench Digital Multi-meters                         | 10       | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |
| 3           | Bench Analog Multi Meter                           | 10       | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |
| 4           | Moving Iron Voltmeter                              | 10       | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |
| 5           | Moving Iron 'A'                                    | 5        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |
| 6           | C.T's  | 5        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |
| 7           | Earth Leakage C.Bs                                 | 5        | 90 days                                 |
| -           | Specifications as per Purchase Order/ Supply Order |          | 0.0.1                                   |
| 8           | RPM/Tacho Meter                                    | 5        | 90 days                                 |
| -           | Specifications as per Purchase Order/ Supply Order |          |   |
| 9           | Electro Dynamic 'W'                                | 5        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |
| 10          | Electro Dynamic VAR                                | 5        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |
| 11          | Induction 'W' Meter                                | 5        | 90 days                                 |
| 10          | Specifications as per Purchase Order/ Supply Order | 10       | 0.0.1                                   |
| 12          | Precision LCR Bridge                               | 10       | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |
| 13          | LCR Meters   | 1        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          | 0.0.1                                   |
| 14          | Oscilloscopes (150 MHz DSO)                        | 10       | 90 days                                 |
| 4 -         | Specifications as per Purchase Order/ Supply Order |          | 0.0.1                                   |
| 15          | Lux Meter  | 5        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          | 0.0.1                                   |
| 16          | Sound Level Meter                                  | 2        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |
| 17          | Hygrometer   | 2        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          | 0.0.1                                   |
| 18          | Strain Grags                                       | 5        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          | 0.0.1                                   |
| 19          | Load Cells Different Types                         | 5        | 90 days                                 |
| 00          | Specifications as per Purchase Order/ Supply Order |          | 00.1                                    |
| 20          | Experiment Tables                                  | 5        | 90 days                                 |
| 0.1         | Specifications as per Purchase Order/ Supply Order | 1        | 00.1                                    |
| 21          | Contingencies (components, cables etc.) one set    | 1        | 90 days                                 |
| 00          | Specifications as per Purchase Order/ Supply Order | 10       | 00.1                                    |
| 23          | Multi Output DC Power Supply                       | 10       | 90 days                                 |
| 0.1         | Specifications as per Purchase Order/ Supply Order |          | 00.1                                    |
| 24          | Function Generators (25MHz)                        | 1        | 90 days                                 |
| 05          | Specifications as per Purchase Order/ Supply Order |          | 00.1                                    |
| 25          | Galvanometers                                      | 1        | 90 days                                 |
| 00          | Specifications as per Purchase Order/ Supply Order |          | 00.1                                    |
| 26          | Digital Counters                                   | 6        | 90 days                                 |
|             | Specifications as per Purchase Order/ Supply Order |          |   |

<sup>&</sup>lt;sup>1</sup> The Procuring Agency must specify here the date from which the delivery schedule will start. That date should be either the date of contract award, or the date of contract signature, or the date of opening of letter of credit, or the date of confirmation of the Letter of Credit, as appropriate. The Bid Form should include only a cross-reference to this Schedule.

## Section VIII. Sample Forms

8.1. Bid Submission Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with the Technical Bid]

No:\_\_\_\_\_ Date: \_\_\_\_\_

То

#### Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents including Addenda Nos. \_\_\_\_\_\_ if any, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver full package (Equipments for Measurements & Instrument Lab) in conformity with the said bidding documents for the sum of [*total bid amount in words and figures* firm and final including all taxes etc] or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the **guarantee of a bank in a sum equivalent to 10% of the Contract Price** for the due performance of the Contract, in the form prescribed by the Procuring Agency.

We agree to a Bid by this Bid for bid for a period of 120 days from the date fixed from Bid opening under clause 2.3.8 of the Instructions to Bidder, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed (if required), this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

The Composition of our bid consists on separate Technical and financial bids, detail of which is as follows: **Technical bid includes the following:** 

- a) Complete bidding document (without filling) signed and stamped by the bidder
- b) All the forms relevant to the technical bid, to be reproduced on the letter head of the bidder as indicated on each individual form.
- *c)* Original Bid security form (as per **form 8.11**) along with Original financial instrument *[Bank Guarantee / Bank call-deposit (CDR)]* valid for **30 Days**, beyond the validity of Bid.
- d) Any other document required by the procuring agency not inconsistent with PPR-14.

#### Financial bid includes the following:

- a) Original Bid form (as per **form 8.1 of** Bidding documents) on letter head of the firm, duly signed and stamped.
- b) Price schedule / financial form (as per **form 8.10**) to be reproduced on the letter head of the bidder duly signed and stamped.
- c) Copy of bid security form along with copy of financial instruments [Bank Guarantee / Bank calldeposit (CDR)] valid for 30 Days, beyond the validity of Bid in the manner as prescribed on the bid security form 8.11.
- d) Any other document required by the procuring agency not inconsistent with PPR-14.

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Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

| Name and address of goods provider | Amount (Rs.) |
|------------------------------------|--------------|
|                                    |              |
|                                    |              |

If none, state none)

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this \_\_\_\_\_\_ day of \_\_\_\_\_\_ 20\_\_\_\_.

[signature]

[in the capacity of]

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_\_

#### 8.3. Manufacturer's/ Authorized Dealer's Authorization Form

[To be signed and stamped by the Bidder and to be attached with Technical Bid]

[See Clause 2.3.6 (iii) of the Instructions to Bidders.]

To:

#### Convener, Procurement Committee, Punjab University of Technology Rasul.

WHEREAS [name of the Manufacturer/ Authorized Dealer], who are established and reputable manufacturers of [name and/or description of the goods] having factories at [address of factory] do hereby authorize [name and address of Agent] to submit a Bid, and subsequently negotiate and sign the Contract with you against for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation to Bids.

[Signature for and on behalf of Manufacturer/ Authorized Dealer]

Note: This letter of authority should be on the letterhead of the Manufacturer and should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should be included by the Bidder in its Bid.

#### 8.4. Bidder Profile Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

| Sr.#                    | Particulars                      |  |
|-------------------------|----------------------------------|--|
| 1.                      | Name of the company:             |  |
| 2.                      | Registered Office:               |  |
| Address:                |                                  |  |
| Office Telephone Numbe  | er:                              |  |
| Email:                  |                                  |  |
| 3.                      | Contact Person:                  |  |
| Name:                   |                                  |  |
| Personal Telephone Num  | ıber:                            |  |
| Email Address: Email:   |                                  |  |
| 4.                      | Details of District wise offices |  |
| Address:                |                                  |  |
| Office Telephone Numbe  | er:                              |  |
| Email:                  |                                  |  |
| Address:                |                                  |  |
| Office Telephone Number | er:                              |  |
| Email:                  |                                  |  |
| Address:                |                                  |  |
| Office Telephone Number | er://                            |  |
| Email:                  |                                  |  |
| 5.                      | Registration Details:            |  |
|                         |                                  |  |

a) Audited Financial Statement Attachment/Income Tax Returns (Last <u>05</u> years )

#### b) Details of Experience (Last <u>05</u> Years)

| (i)  | Supply of Similar nature & similar cost or above<br>(Agency/Department) | Item Name relevant to<br>package |  |
|------|---|----------------------------------|--|
|      | 1-  |                                  |  |
|      | 2-  |                                  |  |
|      | 3-  |                                  |  |
|      | 4-  |                                  |  |
|      | 5-  |                                  |  |
| (ii) | Value of total Projects/Tenders/Pos                                     | Amount (Rs. In Million)          |  |
|      | 1-  |                                  |  |
|      | 2-  |                                  |  |
|      | 3-  |                                  |  |
|      | 4-  |                                  |  |
|      | 5-  |                                  |  |

#### c) Staff Detail and last month Payroll with following detail duly signed and stamped

| S# | Name of Employee | Designation | Highest qualification | PEC Registration# |
|----|------------------|-------------|-----------------------|-------------------|
|    |                  |             |                       |                   |

- d) Total Annual Sales /Annual Turnover (last five years)
- e) Fixed Assets detail
- f) Bank balance / credit Limit
- g) detail of set up for provision of after sale service.

**h)** List of offices other than head office with Complete address, ownership / rent agreement, years of office established on the same place.

## 8.5. General Information Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

|                  | Particulars               |  |  |
|------------------|---------------------------|--|--|
| Company Name     |                           |  |  |
| Abbreviated Name |                           |  |  |
|                  |                           |  |  |
| National Tax No. | Sales Tax Registration No |  |  |
|                  |                           |  |  |
| PRA Tax No.      |                           |  |  |
| No. of Employees | Company's Date of         |  |  |
|                  | Formation                 |  |  |
|                  |                           |  |  |

\*Please attach copies of NTN, GST Registration & Professional Tax Certificate

| _ |
|---|

#### 8.6. Affidavit

[To be printed on **PKR 300** Stamp Paper, duly attested by oath commissioner. To be attached with Technical Bid]

#### Name: \_

(Applicant)

I, the undersigned, do hereby certify that all the statements made in the Bidding document and in the supporting documents are true, correct and valid to the best of my knowledge and belief and may be verified by employer if the Employer, at any time, deems it necessary.

The undersigned hereby authorize and request the bank, person, company or corporation to furnish any additional information requested by the Punjab University of Technology Rasul of the Punjab deemed necessary to verify this statement regarding my (our) competence and general reputation.

The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the Punjab University of Technology Rasul. The undersigned further affirms on behalf of the firm that:

- (i) The firm is neither currently blacklisted by any Department nor any litigation is pending before PPRA or any other court of law competence in this regard against any such blacklisting order.
- (ii) The documents/photocopies provided with Bid are authentic. In case, any fake/bogus document was found at any stage, the firm shall be blacklisted as per Law/ Rules.
- (iii) Affidavit for correctness of information.
- (iv) Contractor/firm is not blacklisted or subject to any pending litigation with any Government or Public Department

[Name of the Contractor/Bidder/Supplier] undertakes to treat all information provided as confidential.

Signed by an authorized Officer of the company

Title of Officer:

Name of Company: \_\_\_\_\_

Date:

#### 8.7. Performance Guarantee Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with contract documents] **To,** 

Convener, Purchase Committee,

Punjab University of Technology Rasul

WHEREAS [name of Supplier] (hereinafter called "the Supplier") has undertaken, in pursuance of "INVITATION TO BID FOR THE PROVISION/ INSTALLATION OF **Package No.** PUT/PMU/2023-24/17, "Equipments for Measurements & Instrument Lab" to supply [ (hereinafter called "the Contract"). Dated \_\_\_\_\_\_ 20\_\_\_\_

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a bank guarantee by a schedule bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of \_\_\_\_\_\_ [amount of the guarantee in words and figures], and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_\_ [amount of guarantee] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ or \_\_\_\_\_ days [insert number of days] after the rectification of the Defects, whichever is later.

#### [NAME OF GUARANTOR]

Signature\_\_\_\_\_
Name\_\_\_\_\_
Title \_\_\_\_\_

Address\_\_\_\_\_Seal\_\_\_\_

Date\_\_\_\_\_

#### 8.8. Technical Bid Form Form-I

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]

To,

#### Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply, install and commission the following items in conformity with the below mentioned required specification against each item.

| Sr.<br>No. | Item Name with Specifications | Quantity<br>along<br>with Unit | Country<br>of Origin | Quoted Brand<br>with country of<br>manufacturer,<br>Make & Model |  |
|------------|-------------------------------|--------------------------------|----------------------|--|--|
| 1          | 2                             | 3                              | 6                    | 7  |  |
| 1          |                               |                                |                      |  |  |

#### Stamp & Signature of Bidder

#### Form II BIDDER'S COMMENTARY FORM

Bidder is required to insert specifications of quoted item, elaborate variations if any and give remarks against each component of specifications of the item quoted for supply.

| Sr.<br>No. | Item Name with<br>Specifications as per Bid<br>documents | Quoted Item Name with<br>Specifications | Variations | Remarks |
|------------|--|---|------------|---------|
| 1          |  |   |            |         |
| 2          |  |   |            |         |
| 3          |  |   |            |         |

#### Stamp & Signature of Bidder \_\_\_\_\_

#### **8.9.** Contract Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with contract documents]

THIS AGREEMENT made the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ between [name of Procuring Agency] (hereinafter called "the Procuring Agency") of the one part and [name of Supplier] of (hereinafter called "the Supplier") of the other part:

WHEREAS the Procuring Agency invited bids for certain goods and ancillary services, viz., package No. PUT/PMU/2023-24/17, Equipments for Measurements & Instrument Lab. and has accepted a bid by the Supplier for the supply of those goods and services in the sum of [contract price in words and figures] (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSES AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

The following documents shall be deemed to form and be read and construed as part of this 2. Agreement, viz.:

- the Form of Bid and the Price Schedule submitted by the Bidder; (a)
- Schedule of Requirements; (b)
- the Technical Specifications; (c)
- the General Conditions of Contract; (d)
- the Special Conditions of Contract; and (e)
- (f) the Procuring Agency's Notification of Award.
- Contract agreement (g)
- **Complete Bidding Document** (h)

In consideration of the payments to be made by the Procuring Agency to the Supplier as hereinafter 3. mentioned, the Supplier hereby covenants with the Procuring Agency to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract

The Procuring Agency hereby covenants to pay the Supplier in consideration of the provision of the 4. goods and services, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

All disputes or differences between the parties in connections with or arising out of this agreement 5. shall be settled through arbitration in accordance with the provisions of Punjab Procurement Rules 2014. The arbitration should be made through mutually agreed single arbitrator under Arbitration Act 1940.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year mentioned above.

| Procuring Agency                             | <u>Supplier / Contractor</u>                 |
|--|--|
| Signature:<br>Name:<br>Designation:<br>Date: | Signature:<br>Name:<br>Designation:<br>Date: |
| WITNESS:                                     | 1  |

1.

2.

#### 8.10. Financial Bid Form/Price Schedule

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Financial Bid]

To,

Convener, Procurement Committee, Punjab University of Technology Rasul.

Having examined the bidding documents the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply, install and commission the following items in conformity with the below mentioned prices at

|            |                   | Country of    | Quantity                                  | Pak Rupees    |                                 |                 |                        |   |
|------------|-------------------|---------------|---|---------------|---------------------------------|-----------------|------------------------|---|
| Sr.<br>No. | Item Name with Sp | pecifications | origin,<br>brand<br>name, make<br>& model | along<br>with | Unit<br>Price<br>without<br>GST | GST per<br>Unit | Unit Price<br>with GST | Total Price<br>Inclusive all<br>Taxes (In Words<br>& Figures) |
| 1          | 2                 |               | 3   | 4             | 5                               | 6               | 7                      | 8   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            |                   |               |   |               |                                 |                 |                        |   |
|            | Grand Total       |               |   |               |                                 |                 |                        |   |

#### Amount of Grand total in Words:

We understand that the Procuring Agency intends to award the contract to the lowest evaluated bidder. We will not claim any additional cost in respect of aforesaid equipment due to any price variations till the expiry of warranty period. We undertake, to complete the work / supply within the given time period in case we are declared lowest evaluated bidder.

#### Note:

- 1. All applicable taxes at the time of payment will be deducted. Change in the rate of tax announced by the Govt. from time to time will be applicable for the purpose of deduction of tax.
- 2. Procuring Agency can issue purchase order from time to time as per availability of funds. Therefore, selected bidder shall lock the price for 06 months after singing of contract agreement.
- 3. In case of difference between unit price and total price, unit price shall prevail and total price shall be "final". (Please refer ITB clause 2.5.6).
- 4. In case of difference between amount in "words" and amount in "figures", amount in "words" shall be considered final.

#### Stamp & Signature of Bidder \_\_\_\_\_

)

#### 8.11. Bid Security Form

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid. Required if the bid security is in shape of bank guarantee]

Whereas [name of the Bidder] (hereinafter called "the Bidder") has submitted its Bid dated [date of submission of Bid] for the supply of [name and/or description of the goods] (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that WE [name of bank] of [name of country], having our registered office at [address of bank] (hereinafter called "the Bank"), are bound unto [name of Procuring Agency] (hereinafter called "the Procuring Agency") in the sum of for which payment well and truly to be made to the said Procuring Agency, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_\_\_ day of \_\_\_\_\_\_ 20\_\_\_\_.

THE CONDITIONS of this obligation are:

- 1. If the Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Bid Form; or
- 2. If the Bidder, having been notified of the acceptance of its Bid by the Procuring Agency during the period of Bid validity:
  - (a) fails or refuses to execute the Contract Form, if required; or
  - (b) fails or refuses to furnish the Performance Guarantee, in accordance with the Instructions to Bidders;

we undertake to pay to the Procuring Agency up to the above amount upon receipt of its first written demand, without the Procuring Agency having to substantiate its demand, provided that in its demand the Procuring Agency will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including thirty (30) days after the period of Bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

[Signature of the bank]

[The Procuring Agency may alter or modify the details of this form in accordance with PPR-14 keeping in view its requirements, nature of procurement i.e. Bulk/Framework, item wise/package wise and form of contract to be adopted (i.e. DDP, CIF, C&F, FOR, FOP etc. if applicable) However, for a standard procurement/contract contents of a generalized this Form may be as provided above.]

#### 8.12. Draft Integrity Pact

(For the procurement of 10,000,000 and above)

The lowest evaluated successful bidder shall sign and stamp the below mentioned Integrity Pact for the procurement contracts exceeding Rupees 10 million. Failure to provide such integrity pact shall make the bidder non-responsive.

| Contract No                  | Dated | Contract Value: [To be filled in at the |
|------------------------------|-------|---|
| time of signing of Contract] |       |   |

#### Contract Title: \_\_\_\_\_

Without limiting the generality of the foregoing, [name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GOP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GOP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GOP under any law, contract or other instrument, be voidable at the option of GOP.

Notwithstanding any rights and remedies exercised by GOP in this regard, [name of Supplier] agrees to indemnify GOP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GOP in an amount equivalent to ten time the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GOP.

| Name of Buyer: | Name of Seller/Supplier: |
|----------------|--------------------------|
| Signature:     | Signature:               |
| [Seal]         | [Seal]                   |

#### Certificate

[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid.]

- A. We undertake that our organization M/S\_\_\_\_\_\_ is not black listed by any Government / Semi-Government / Agency / Autonomous Bodies in any part of Pakistan.
- B. We undertake that in case our bid accepted the goods to be supplied under the contract agreement will be genuine, brand new, non-refurbished, un-altered in any way, as per required specification, imported (if any) through proper channel.
- C. We have read all terms & conditions and undertake to abide by all Terms & Conditions mentioned in this bidding document.
- D. We also hereby categorically confirm that the proposal / bid offered by us complies to particulars and specification as given in the Bidding Documents.
- E. It is certified that quoted rates against each item are as per market rate and we will refund the excess amount, in case we offered the same items at lowest rate anywhere in Pakistan.

# Section IX- Check List

[To be signed and stamped and presented on Bidder's letter head pad] provision of this checklist is essential prerequisite along with submission of tenders (with technical

| The provision | of this | checklist | is | essential | prereq |
|---------------|---------|-----------|----|-----------|--------|
| proposal).    |         |           |    |           |        |
| Sr.           |         |           |    |           |        |

| Sr.<br># | Detail   | Evidence attached<br>(Yes/No) | Given at<br>page(s) # |
|----------|--|-------------------------------|-----------------------|
| 1        | Original or print of online bid fee receipt for online purchase of tender along with technical proposal.   |                               | • • • •               |
| 2        | 02% Bid Security of estimated cost of articles / items given by the department. The Bid security must be submitted with technical proposal.  |                               |                       |
| 3        | Active Registration with Income Tax Authorities (National Tax Number NTN) at least five years old  |                               |                       |
| 4        | Copy of active Registration with Sales Tax Authorities (STRN)  |                               |                       |
| 5        | Copy of active Registration (Professional Tax Certificate)   |                               |                       |
| 6        | Manufacturer's/Dealer's/Seller's Authorization as per form 8.3   |                               |                       |
| 7        | Max <u>05</u> similar nature supply having cost 10 million or above performed / executed<br>in public sector during last 05 years (supply order or completion certificate).<br>The procuring agency reserves the right to verify from the issuer.  |                               |                       |
| 8        | General Information Form (as per <b>form 8.5</b> of Bidding documents) on letter head of the firm duly signed and stamped.   |                               |                       |
| 9        | <ul> <li>Affidavit (as per form 8.6) on non-judicial Stamp Paper minimum worth of Rs.</li> <li>300/- mentioning the followings <ul> <li>(i) The documents/ photocopies provided with Bid are authentic. In case of any fake/bogus document noticed at any stage. They shall be black listed as per Rules / Laws.</li> <li>(ii) Affidavit for correctness of information.</li> </ul> </li> </ul>  |                               |                       |
|          | Contractor/firm is not blacklisted or subject to any pending litigation with any Government or Public Department.  |                               |                       |
| 10       | Performance Guarantee Form (as per <b>form 8.7</b> of Bidding documents) on letter head of the firm, duly signed and stamped at the time of contract signing in case of bank guarantee otherwise not applicable.   |                               |                       |
| 11       | Technical Bid Form (as per <b>form 8.8</b> of Bidding documents) on letter head of the firm duly signed and stamped.   |                               |                       |
| 12       | Financial Bid Form (as per <b>form 8.10</b> of Bidding documents) on letter head of the firm, duly signed and stamped in financial bid.  |                               |                       |
| 13       | Bid Security Form (as per <b>form 8.11</b> of Bidding documents) on letter head of the firm, duly signed and stamped in case of bank guarantee otherwise not applicable.   |                               |                       |
| 14       | <ul> <li>i. Work order / supply order / purchase order of previous relevant experience for turnout.</li> <li>ii. Company profile. Staff list along with location and address.</li> <li>iii. Income Tax Return, National tax number Certificate, General Sale Tax Number Certificate (last 05 year).</li> <li>Bidders profile Form (as per form 8.4 of Bidding documents) on letter head of the firm, duly signed and stamped.</li> </ul> |                               |                       |
| 15       | Bank Balance Statement for June, 2023  |                               |                       |
| 16       | Certificate by bidder for provision of after sale service for 05 years.  |                               |                       |
| 17       | Payroll of June 2023 along with degrees, diplomas of technical staff   |                               |                       |
| 18       | Letter of Satisfaction after sale service by the client who has purchase of minimum 05 million   |                               |                       |
| 19       | Presentation of company, its products and repair & maintenance facilities for demonstration, word format of specifications (in soft form in USB)   |                               |                       |
| 20       | <b>Technical Brochures/ catalogues</b> of goods quoted, mentioning its specifications, manufacture's Brand and model etc. in hard & in word format.  |                               |                       |
| 21       | On letter head certificate that supplier will provide spare parts demanded by the procuring agency within 07 days for parts available in Pakistan and within 60 days for foreign spare parts.  |                               |                       |
| 22       | On letter head certificate that supplier is not black listed etc (as per certificate provided in bidding document)   |                               |                       |
| 23       | One original and one copy of Bid provided  |                               |                       |

#### Stamp & Signature of Bidder \_