

UNIVERSITY OF RASUL



BIDDING DOCUMENT

FOR

**“PROCUREMENT OF LAB EQUIPMENT FOR
CENTRAL RESOURCE LAB, AT
UNIVERSITY OF RASUL”**

Tender No. UOR/PD/2026-27/M&E/05

Tender Opening Date: _____

Documents Issue To: - _____ on _____

**PROJECT DIRECTOR
University of Rasul, Mandi Bahauddin**

Table of Contents

.....	ERROR! BOOKMARK NOT DEFINED.
SECTION-I: INVITATION TO BIDS	4
1.1 INVITATION TO BIDDERS.....	4
SECTION-II: INSTRUCTIONS TO BIDDERS (ITB)	6
2.1. INTRODUCTION	6
2.1.1 Scope of Bid	6
2.1.2 Source of Funds	6
2.1.3 Eligible Bidders	6
2.1.4. Eligible Goods and Services.....	7
2.1.5. Cost of Bidding.....	7
2.1.6. One person one bid.....	7
2.2. THE BIDDING DOCUMENTS.....	7
2.2.1. Content of Bidding Documents.....	7
2.2.2. Clarification of Bidding Documents	8
2.2.3. Amendment of Bidding Documents.....	9
2.3. PREPARATION OF BIDS	9
2.3.1. Language of Bid	9
2.3.2. Bid Form	10
2.3.3. Bid Prices	10
2.3.4. Bid Currencies	10
2.3.5. Documents Establishing Bidder's Eligibility and Qualification.....	10
2.3.6. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents	11
2.3.7. Bid Security	12
2.3.8. Period of Validity of Bids	13
2.3.9. Format and Signing of Bid	13
2.4. SUBMISSION OF BIDS	14
2.4.1 Sealing and Marking of Bids	14
2.4.2 Deadline for Submission of Bids	15
2.4.3. Late Bids.....	15
2.4.4. Modification and Withdrawal of Bids.....	15
2.5. OPENING AND EVALUATION OF BIDS.....	16
2.5.1. Opening of Bids by the Procuring Agency	16
2.5.2. Confidentiality	16
2.5.3. Clarification of Bids	17
2.5.4. Preliminary Examination.....	17
2.5.5. Examination of Terms and Conditions; Technical Evaluation	18
2.5.6. Correction of Errors	18
2.5.7. Conversion to Single Currency.....	19
2.5.8. Post-Qualification & Evaluation of Bids.....	19
2.5.9. Contacting the Procuring Agency.....	20
2.5.10. Grievance Redressal	20
2.6. AWARD OF CONTRACT	21
2.6.1. Notification of Award.....	21
2.6.2. Performance Guarantee	21
2.6.3. Signing of Contract/ Issuance of Purchase Order	21
2.6.4. Award Criteria.....	21
2.6.5. Procuring Agency's Right to Vary Quantities at Time of Award.....	21
2.6.6. Procuring Agency's Right to Accept or Reject All Bids.....	22
2.6.7. Re-Bidding	22
2.6.8. Corrupt or Fraudulent Practices	22
SECTION-III. TECHNICAL SPECIFICATIONS	24
3.1. TECHNICAL SPECIFICATIONS	ERROR! BOOKMARK NOT DEFINED.
SECTION-IV: BID DATA SHEET (BDS)	24
A. INTRODUCTION	37
B. BIDDING DOCUMENTS	37
C. BID PRICE, CURRENCY, LANGUAGE AND COUNTRY OF ORIGIN	37
D. PREPARATION AND SUBMISSION OF BIDS	37
E. OPENING AND EVALUATION OF BIDS	38
F. BID EVALUATION CRITERIA	38
Evaluation Criteria (Eligibility & Qualification)	39

G. AWARD OF CONTRACT	41
SECTION-V: GENERAL CONDITIONS OF CONTRACT.....	42
1. DEFINITIONS.....	42
2. APPLICATION.....	42
3. COUNTRY OF ORIGIN.....	42
4. STANDARDS.....	43
5. USE OF CONTRACT DOCUMENTS AND INFORMATION; INSPECTION AND AUDIT BY THE PROCURING AGENCY...	43
6. PATENT RIGHTS.....	43
7. PERFORMANCE GUARANTEE	43
8. INSPECTIONS AND TESTS	44
9. PACKING.....	44
10. DELIVERY AND DOCUMENTS	45
11. INSURANCE	45
12. TRANSPORTATION	45
13. INCIDENTAL SERVICES	45
14. SPARE PARTS	46
15. WARRANTY	46
16. PAYMENT.....	47
17. PRICES	47
18. CHANGE ORDERS.....	47
19. CONTRACT AMENDMENTS	47
20. ASSIGNMENT	48
21. SUB-CONTRACTS	48
22. DELAYS IN THE SUPPLIER’S PERFORMANCE.....	48
23. LIQUIDATED DAMAGES.....	48
24. TERMINATION FOR DEFAULT	48
25. FORCE MAJEURE.....	50
26. TERMINATION FOR INSOLVENCY.....	50
27. TERMINATION FOR CONVENIENCE	50
28. RESOLUTION OF DISPUTES	51
29. GOVERNING LANGUAGE	51
30. APPLICABLE LAW	51
31. NOTICES.....	51
32. TAXES AND DUTIES	51
SECTION-VII. SCHEDULE OF REQUIREMENTS.....	52
7.1 SCHEDULE OF REQUIREMENTS	52
8.1 BID FORM / BID SUBMISSION COVERING LETTER.....	63
8.2. MANUFACTURER’S AUTHORIZATION FORM	64
8.3. BIDDER PROFILE FORM	65
8.4. AFFIDAVIT.....	66
8.5. PERFORMANCE GUARANTEE FORM	67
8.6. TECHNICAL BID FORM.....	68
8.7. CONTRACT FORM	68
8.8. FINANCIAL BID FORM/PRICE SCHEDULE	69
SECTION IX- CHECK LIST/COMPLIANCE DATA SHEET	70

Section-I: Invitation to Bids

1.1 INVITATION TO BIDDERS

UNIVERSITY OF RASUL **TENDER NOTICE**

University of Rasul invites sealed bids *Lot wise base* from reputable firms, registered with relevant Registration Authorities and Tax Department for Income Tax and Sales Tax (GST) purpose with **active taxpayer profile** and having adequate experience for supply of below mentioned item(s). Bids shall be received/processed on **Single Stage Two Envelope** bidding procedure.

LOT	Description	Estimated Cost	2% Bid Security
1	Scanning Electron Microscope SEM with EDS along with Coater	67,500,000	1,350,000
2	X-Ray Diffractometer XRD	27,000,000	540,000
3	Photoluminescence Spectrometer	4,500,000	90,000
4	Atomic Absorption Spectrometer system	7,500,000	150,000
5	Gas Chromatograph Mass Spectrometer with GC MS with FID and TCD	30,000,000	600,000
6	Double Beam Ultra Violet-Visible Spectrometer	1,800,000	36,000
7	Real Time Polymerase Chain Reaction Machine PCR	7,000,000	140,000
8	FT IR with Diamond UATR	7,500,000	150,000
9	HPLC High Power Liquid Chromatograph with Accessories	8,000,000	160,000
Total Amount		160,800,000	3,216,000

Documents are immediately available w.e.f. the date of publication and can be downloaded from websites of University of Rasul (www.uor.edu.pk) and PPRA (ppra.punjab.gov.pk), (www.punjab.eprocure.gov.pk).

Bid Security must be submitted through EP portal (E-Procurement Punjab) and Scan copy attached with the Technical Bid.

Sealed bids (prepared in conformity with instructions of bidding documents) must reach through **E-PROCUREMENT** (<http://www.Ep.punjab.gov.pk>) not later than **13-10-2026 ON 11:00 AM**.

Bids shall be opened on the same day at **11:30 AM** in the presence of bidders or their representatives, who may choose to be present, having a valid authority letter from their respective organization.

University shall not be responsible for delays & non-delivery caused by courier firms/post office etc. regarding submission of 2% bid security. In the case of an official holiday on the day of submission, the next day will be treated as closing date.

The University Management may reject all bids at any time prior to the acceptance of a bid, as provided under Rule-35 of Punjab Procurement Rules 2014.

NOTE: the URL of the website of the PPRA is (<http://eproc.punjab.gov.pk/ViewTender.aspx>) shall be calculated exclusively from the date publication of the advertisement on the website of PPRA.

Project Director
13-km Mandi-Sarai Alamgir Road, Rasul, District Mandi Bahauddin,
Ph# +92 546 553216

Section-II: Instructions to Bidders (ITB)

Note:- All the procurement procedures shall be conducted in accordance with Punjab Procurement Authority Act-2009 and Punjab Procurement Rules-2014. In case of any conflict between the provision of this document and PPRA Act-2009/ PPRA Rules-2014, the later shall prevail.

2.1. Introduction

2.1.1 Scope of Bid i) The Procuring Agency (PA) invites Bids for the provision of Goods as specified in the **Section-IV Bid Data Sheet (BDS)** and **Section III - Technical Specifications & Section VII- Schedule of Requirements**. Successful Bidders will be expected to deliver, install/commission the goods or provision of services at **Main Store, University of Rasul** within the specified period and timeline(s) as stated in the BDS.

2.1.2 Source of Funds i) University of Rasul, Rasul

2.1.3 Eligible Bidders

- i) The Invitation to Bids is open to all suppliers i.e. firms/companies/sole proprietor/ general order suppliers, registered with relevant Registration Authorities and Tax Departments/ Authorities (Income Tax, Sales Tax & Punjab Sales Tax etc.), except as provided hereinafter.
- ii) Government-owned enterprises may participate only if they are duly/legally authorized in this regard by the respective/relevant competent forum/authority.
- iii) Bidders shall not be under a declaration of blacklisting by the Procuring Agency.
- iv) A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be Non-Responsive. A Bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if they:
 - a) Are associated or have been associated for the procurement of the goods to be purchased under this Invitation for Bids, directly or indirectly with a firm or any of its affiliates which have been engaged by the Procuring Agency to provide consulting services for the preparation of the design, specifications and other documents to be used.
 - b) Have controlling shareholders in common; or
 - c) Receive or have received any direct or indirect subsidy from any of them; or
 - d) Have the same legal representative for purposes of this Bid; or
 - e) Have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bid of another Bidder, or influence the decisions of the Procuring Agency regarding this Bidding process; or
- v) A Bidder may be ineligible if –

- (a) The Bidder is declared bankrupt or, in the case of company or firm, insolvent;
- (b) The Bidder is convicted, by a final judgment, of any offence involving professional conduct;
- (c) 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.
- (d) 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.
- (e) The firm, supplier and contractor is blacklisted/ debarred by any international organization.

2.1.4. Eligible Goods and Services

- i) All goods and related services to be supplied under the Contract shall have their origin in eligible source countries, defined in the *Bid Data Sheet (BDS/Technical Specification)*, and all expenditures made under the contract will be limited to such goods and related services.
- 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 is obtained that is substantially different in basic characteristics or in purpose or utility from its components.
- iii) The origin of goods and services is distinct from the nationality of the Bidder. *In any case, the requirements of Rules 10 & 26 of PPR-14, shall be followed.*

2.1.5. Cost of Bidding

- i) The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Procuring Agency named in the Bid Data Sheet, hereinafter referred to as “the Procuring Agency,” will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

2.1.6. One person one bid

- i) As per Rule 36A of Punjab Procurement Rules 2014, a Bidder shall submit only one Bid in the same bidding process, either individually or any similar arrangement.

2.2. The Bidding Documents

2.2.1. Content of Bidding Documents

- i) The goods required, Bidding procedures, and contract terms are prescribed in the Bidding documents. The Bidding documents, inter alia, include:
 - (a) Invitation to Bids
 - (b) Instructions to Bidders (ITB)
 - (c) Technical Specifications
 - (d) Bid Data Sheet
 - (e) General Conditions of Contract (GCC)

- (f) Special Conditions of Contract (SCC), if any.
 - (g) Schedule of Requirements
 - (h) Bid Form/ Bid Submission Letter
 - (i) Manufacturer's Authorization Form (where applicable)
 - (j) Bidder Profile Form
 - (k) General Information Form
 - (l) Affidavit
 - (m) Technical Bid Form
 - (n) Contract Form
 - (o) Financial Bid Form / Price Schedule
 - (p) Performance Guarantee Form
 - (q) Check List
- ii) The Bidder is required to examine all instructions, forms, terms, and specifications in the Bidding documents. Failure to furnish all information as required by the Bidding documents or to submit a Bid not responsive to the Bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its Bid.
 - iii) 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.
 - 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 responsibility of the Bidder.

2.2.2. Clarification of Bidding Documents

- 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 Invitation to Bid/ Tender Notice/ Advertisement. The Procuring Agency will respond in writing to any request for clarification of the Bidding documents which it receives no later than **seven (07) 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) will be sent to all prospective Bidders that have received the Bidding documents.
- 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 **BDS**.
- 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 provided that such request is received not later than seven (7) days prior to the deadline for the submission of Bids. As prescribed in **ITB**

2.2.2 (i), above. However, this clause shall not apply in case of alternate methods of Procurement.

- iv) Copies of the Procuring Agency's response will be uploaded on the website of procuring agency on given date and forwarded to identified Prospective Bidders through an expeditious identified source of communication, e.g.: e-mail etc., including a description of the inquiry, but without identifying its source.
- v) Should the Procuring Agency deem it necessary to amend the Bidding Documents as a result of clarification, it shall do so following the procedure under **ITB 2.2.3.**
- vi) If indicated **in the BDS**, 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 **in the BDS**. 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.
- vii) 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
of Bidding
Documents**

- i) At any time prior to the deadline for submission of Bids, but not later than three (3) days before the closing date of the submission of Bid, the Procuring Agency, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, may modify the Bidding documents by amendment. Any such change/amendment in the Bidding documents shall be provided in a timely manner, preferably through electronic means also, not later than three (3) days, and on equal opportunity basis as per Rule-25(3) OR Rule 25(4) of PPR-14 as the case may be.
- ii) In order to allow prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Procuring Agency, at its discretion, may extend the deadline for the submission of Bids, as per rule 29 of PPR-14, in the manner similar to the original advertisements, so as to avoid any inconvenience and to doubly ensure level playing field for all prospective bidders.

2.3. Preparation of Bids

**2.3.1. Language of
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 **Bid Data Sheet**. Supporting documents and printed literature furnished by the Bidder may be in same language.

- 2.3.2. Bid Form**
- i) The Bidder shall complete the Bid Form and the appropriate Price Schedule (Financial Bid) furnished in the Bidding documents, indicating the goods to be supplied, a brief description of the goods, their country of origin, quantity, and prices.
- 2.3.3. Bid Prices**
- i) The Bidder shall indicate on form 8.8 the unit prices (where applicable) and total Bid price of the goods it proposes to supply under the contract.
 - ii) Prices indicated on the Price Schedule shall be item wise/ package wise *as given on form 8.8*.
 - iii) The Bidder's separation of price components in accordance with ITB Clause 2.3.3(ii) above will be solely for the purpose of facilitating the comparison of Bids by the Procuring Agency and will not in any way limit the Procuring Agency's right to contract on any of the terms offered.
 - iv) Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Bid Data Sheet. A Bid submitted with an **adjustable price quotation** will be treated as non-responsive and may be rejected.
- 2.3.4. Bid Currencies**
- i) Prices shall be quoted in **Pak Rupees** for local/DDP items unless otherwise specified in the Bid Data Sheet.
- 2.3.5. Documents Establishing Bidder's Eligibility and Qualification**
- i) Pursuant to ITB Clause 2.1.3, 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.
 - 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 which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Manufacturer [*Manufacturer's Authorization form No. 8.3*] or producer to supply the same in Pakistan;
 - (b) that the Bidder has the financial, technical, and production capability necessary to perform the contract;
 - (c) that, in the case of a Bidder not doing business within Pakistan, the Bidder is or will be (if awarded the contract) represented by an Agent in that country equipped, and able to carry out the Supplier's maintenance, repair, and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
 - (d) that the Bidder meets the qualification criteria listed in the Bid Data Sheet.

2.3.6. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

- 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 related services which the Bidder proposes to supply under the contract.
- ii) 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.
- iii) The documentary evidence of conformity of the goods and services to the Bidding documents may be in the form of literature, drawings, data and shall consist of:
 - (a) a detailed description of the essential technical and performance characteristics of the goods;
 - (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
 - (c) an item-by-item commentary on the Procuring Agency's Technical Specifications demonstrating **responsiveness** of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.
- 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.
- v) Where a sample(s) is required by a procuring agency, the sample shall be:
 - (a) submitted as part of the bid, in the quantities, dimensions and other details requested in the **BDS**;
 - (b) carriage paid;
 - (c) received on, or before, the closing time and date for the submission of bids; and
 - (d) Evaluated to determine compliance with all characteristics listed in the **BDS**.
{However, the procuring agency may also opt to ask for samples after submission of technical bids (where require)}
- 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)-
 - (a) do(es) not conform to all characteristics prescribed in the bidding documents; and
 - (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 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 returned to a Bidder nor shall a Procuring Agency be liable for the cost of making 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) **Pursuant to the requirements as indicated in ITB 2.3.6, the Bidder shall furnish, as part of its Bid, all those documents establishing the eligibility in conformity to the terms and conditions specified in the Bidding Documents for all goods and related services which the Bidder proposes to deliver.**
- xi) 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.
- xii) 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. (vii).
- iii) The Bid security shall be in Pakistan Rupees and shall be in one of the following forms:
 - (a) As prescribed format by the PPRA
- iv) Any Bid not secured in accordance with ITB Clauses 2.3.8 (i) and (ii) may be rejected by the Procuring Agency as non-responsive.
- 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 pursuant to ITB Clause 2.3.8 (ii) or along with unopened financial proposal as per rule 38(2)(a)(vii) of PPR-14, which shall take precedence, and is as under:

"38(2)(a)(vii) the financial proposal of the Bids found technically non-responsive shall be retained unopened and shall be returned on the expiry of the grievance period or the decision of the complaint, if any, filed by the non-responsive Bidder, whichever is later:

provided that the Procuring Agency may return the sealed financial proposal earlier if the disqualified or non-responsive Bidder, contractor or consultant submits an affidavit, through an authorized representative, to the effect that he is satisfied with the proceedings of the Procuring Agency”.

- vi) The successful Bidder’s Bid security will be discharged upon the Bidder signing the contract, pursuant to ITB Clause 2.6.1, and furnishing the Performance Guarantee, pursuant to ITB Clause 2.6.2.
- vii) The Bid security may be forfeited:
 - a. If a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Bid Form; or
 - b. In the case of a successful Bidder, if the Bidder:
 - i. Fails to sign the contract in accordance with ITB Clause 2.6.3; **or**
 - ii. Fails to furnish Performance Guarantee in accordance with ITB Clause 2.6.2; or
 - 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.

2.3.8. Period of Validity of Bids

- i) Bids shall remain valid for the period specified **(06 Months or 01 Year)** in the Bid Data Sheet after the date of Bid opening prescribed by the Procuring Agency. A Bid valid for a shorter period may be rejected by the Procuring Agency as non-responsive.
- 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 under ITB Clause 2.3.8 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 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 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.
- ii) 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. All pages of the Bid, shall be signed and stamped by the authorized

person.

- iv) Any interlineation, erasures, or overwriting shall be valid only if they are initialed by the authorized person for signing the Bid.
- v) 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 sign on behalf of the Bidder. 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.
- vi) Any interlineations, erasures, or overwriting shall be valid only if they are signed by the person or persons signing the Bidder.
- vii) The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid and to contract execution if the Bidder is awarded the contract.

2.4. Submission of Bids

2.4.1 Sealing and Marking of Bids

- i) As per Rule 24, the Bidder shall seal the original and each copy of the Bid in separate envelopes, duly marking the envelopes as "ORIGINAL" and "COPY." The envelopes shall then be sealed in an outer envelope.
- ii) The inner and outer envelopes shall:
 - a. be addressed to the Procuring Agency at the address given in the Bid Data Sheet; and
 - 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)," *[to be completed with the time and the date specified in the Bid Data Sheet, pursuant to ITB Clause 2.4.2.]*
- iii) The inner envelopes shall 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 as required by ITB Clause 2.4.1 (i), the Procuring Agency will assume no responsibility for the Bid's misplacement or premature opening.
- v) In case of Single Stage Two Envelope Procedure, The Bid shall comprise two envelopes submitted simultaneously, one called the Technical Proposal and the other Financial Proposal. Both envelopes to be enclosed together in an outer single envelope called the Bid. Each Bidder shall submit his bid as under:
 - a) Bidder shall submit his TECHNICAL PROPOSAL and FINANCIAL PROPOSAL in separate inner envelopes and enclosed in a single outer envelope.
 - b) ORIGINAL and each copy of the Bid shall be separately

sealed and put in separate envelopes and marked as such.

(c) The envelopes containing the ORIGINAL and copies will be put in one sealed envelope and addressed / identified as given in BDS.

vi) The inner and outer envelopes shall:

- a) be addressed to the Procuring Agency at the address provided in the BDS;
- b) bear the name and identification number of the contract as defined in the BDS; and provide a warning not to open before the time and date for bid opening, as specified in the BDS, pursuant to ITB 2.4.2;
- c) In addition to the identification required in Sub- Clause (b) hereof, the inner envelope shall indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late" pursuant to ITB.2.4.3.

vii) If all envelopes are not sealed and marked as required by **ITB 2.4.1** or incorrectly marked, the Procuring Agency will assume no responsibility for the misplacement or premature opening of Bid.

2.4.2 Deadline for Submission of Bids

- i) Bids must be received by the Procuring Agency at the address specified under BDS no later than the time and date specified in the Bid Data Sheet. Bids received through courier services shall not be entertained.
- ii) The Procuring Agency may, at its discretion and as per rule 29 of PPR-14, extend this deadline for the submission of Bids by amending the Bidding documents in accordance with ITB Clause 2.2.2 & 2.2.3 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.
- iii) Bids shall be received by the Procuring Agency at the address specified under **BDS** no later than the date and time specified in the **BDS**.

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 pursuant to ITB Clause 2.4.2 will be rejected and returned unopened to the Bidder.
- ii) The Procuring Agency shall not consider for evaluation any Bid that arrives after the deadline for submission of Bids.
- iii) 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.

2.4.4. Modification and Withdrawal of Bids

- iv) The Bidder may not modify or withdraw its Bid after the Bid's submission or see clause 2.4.4.

2.5. Opening and Evaluation of Bids

2.5.1. Opening of Bids by the Procuring Agency

- i) The Procuring Agency will open all Bids, in public, in the presence of Bidders' or their representatives who choose to attend, and other parties with a legitimate interest in the Bid proceedings at the place, on the date and at the time, specified in the **BDS**. The Bidders' representatives present shall sign a register/attendance sheet as proof of their attendance.
- ii) In case of Single Stage Two Envelope Procedure, the Procuring Agency will open the Technical Proposals in public at the address, date and time specified in the **BDS** in the presence of Bidders' designated representatives who choose to attend and other parties with a legitimate interest in the Bid proceedings. The Financial Proposals will remain unopened and will be held in custody of the Procuring Agency until the specified time of their opening.
- iii) The envelopes holding the Technical Proposals shall be opened one at a time, and the following read out and recorded: (a) the name of the Bidder; (b) the presence of a Bid Security, if required; and (c) Any other details as the Procuring Agency may consider appropriate.
- iv) Bidders are advised to send in a representative with the knowledge of the content of the Bid who shall verify the information read out from the submitted documents. Failure to send a representative or to point out any un-read information by the sent Bidder's representative shall indemnify the Procuring Agency against any claim or failure to read out the correct information contained in the Bidder's Bid.
- v) No Bid will be rejected at the time of Bid opening except for late Bids which will be returned unopened to the Bidder, pursuant to **2.4.3 (i)**.
- vi) The Procuring Agency shall prepare minutes of the Bid opening. The record of the Bid opening shall include, as a minimum: the name of the Bidder and whether or not there is a withdrawal, substitution or modification, the Bid price if applicable.
- vii) The Bidders' representatives who are present shall be requested to sign on the attendance sheet. The omission of a Bidder's signature on the record shall not invalidate the contents and affect the record.
- viii) Minutes of the Financial Bid Opening shall be recorded and uploaded by the procuring agency on its website or shared to all bidders through e-mail.

2.5.2. Confidentiality

- 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.

- 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.
- 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.

2.5.3. Clarification of Bids

- i) As per rule 33(2) of PPR-14, to assist in the examination, evaluation and comparison of Bids and post-qualification of the Bidders, the Procuring Agency may, at its discretion, ask any Bidder for a clarification of its Bid including breakdown of prices to determine its reasonability. Any clarification submitted by a Bidder that is not in response to a request by the Procuring Agency shall not be considered.
- ii) The request for clarification and the response shall be in writing or in electronic forms that provide record of the content of communication. In case of Single Stage Two Envelope Procedure, no change in the prices or substance of the Bid shall be sought, offered, or permitted. Whereas in case of Single Stage One Envelope Procedure, only the correction of arithmetic errors discovered by the Procuring Agency in the evaluation of Bids should be sought in accordance with ITB Clause 2.5.6.
- iii) The alteration or modification in The Bid which in any way affect the following parameters will be considered as a change in the substance of a bid:
 - a) Evaluation & qualification criteria;
 - b) Required scope of work or specifications;
 - c) All securities requirements;
 - d) Tax requirements;
 - e) Terms and conditions of bidding documents.
 - f) Change in the ranking of the Bidder
- iv) 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 Examination

- i) The Procuring Agency will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order.
- ii) Arithmetical errors will be rectified on the following basis:-
 - 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 may be rejected, and its Bid security may be forfeited.

- b. If there is a discrepancy between words and figures, the amount in words will prevail.
- iii) Prior to the detailed evaluation, the Procuring Agency will determine the responsiveness of each Bid to the Bidding documents, pursuant to ITB Clause 2.5.5. For purposes of these Clauses, a responsive Bid is one which conforms to all the terms and conditions of the Bidding documents without material 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) & 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 responsive, it will be rejected by the Procuring Agency and may not subsequently be made responsive by the Bidder by correction of the non-conformity.
- v) Prior to the detailed evaluation of Bids, the Procuring Agency will determine whether each Bid:
 - a) Meets the eligibility criteria defined in **ITB 2.1.3** and **ITB 2.1.4**;
 - b) Has been prepared as per the format and contents defined by the Procuring Agency in the Bidding Documents;
 - c) Has been properly signed;
 - d) Is accompanied by the required securities; and
 - 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. Examination of Terms and Conditions; Technical Evaluation

- 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.
- 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 & Evaluation Criteria as provided in BDS**, have been met without material deviation or reservation.
- 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 of Errors

- i) Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -
 - 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;

- b) If there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and the total shall be corrected; and
 - c) Where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.
 - 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.
- 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**.

2.5.7. Conversion to Single Currency

- i) As per rule 32(2) of PPR-14, to facilitate evaluation and comparison, the Procuring Agency will convert all Bid prices expressed in the amounts in various currencies in which the Bid prices as follows:

For the purposes of comparison of bids quoted in different currencies, the price shall be converted into a single currency specified in the bidding documents. The rate of exchange shall be the selling rate, prevailing on the date of opening of bids specified in the bidding documents, as notified by the State Bank of Pakistan on that day, in case of holiday in State Bank of Pakistan on the day of opening financial bids, then previous working day's ex-change rates will prevail.

2.5.8. Post-Qualification & Evaluation of Bids

- i) In the absence of **prequalification**, the Procuring Agency will determine to its satisfaction whether the Bidder is qualified to perform the contract satisfactorily, in accordance with the evaluation criteria listed in BDS & pursuant to ITB Clause 2.1.3.
- ii) The determination will take into account the 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 Bid Data Sheet as the Procuring Agency deems necessary and appropriate.
- iii) The Procuring Agency will **technically evaluate** and compare the Bids which have been determined to be responsive, pursuant to ITB Clause 2.5.5, as per Technical Specifications required.
- iv) The **financial evaluation** of a Bid will be on the basis of form of Price Schedules/ Financial Bid Form 8.8 which must include clear cut instruction regarding item wise or package wise evaluation inclusive of prevailing taxes, duties, fees etc.

2.5.9. Contacting the Procuring Agency

- i) Subject to ITB Clause 2.5.3, no Bidder shall contact the Procuring Agency on any matter relating to its Bid, from the time of the Bid opening to the time the 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.
- 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 Redressal

- i) As per Rule-67 of PPR-14, Procuring Agency shall constitute a Grievance Redressed Committee (GRC) comprising of odd number of persons with proper powers and authorization to address the complaints. The GRC shall not have any of the members of the Procurement Evaluation Committee. The Committee may preferably have one subject specialist depending upon the nature of the procurement in addition to one person with legal background as per their availability to the Procuring Agency.
- ii) Any Bidder feeling aggrieved 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 33, and the same shall be addressed by the Procuring Agency well before the proposal 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 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, 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 Contract

- | | |
|---|--|
| 2.6.1. Notification of Award | <ul style="list-style-type: none">i) Prior to the expiration of the period of Bid validity, the Procuring Agency will notify the successful Bidder in writing by registered letter and 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 Guarantee | <ul style="list-style-type: none">i) Within fifteen (15) days of the receipt of notification of award from the Procuring Agency, 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 Contract/ Issuance of Purchase Order | <ul style="list-style-type: none">i) At the same time as the Procuring Agency notifies the successful Bidder that its Bid has been accepted, the Procuring Agency will send the Bidder the Contract Form provided in the Bidding documents, incorporating all agreements between the parties or will issue the purchase order <i>[as the case may be]</i>.ii) Under rule-63 of PPR-14, where the Procuring Agency requires formal signing of contract, within seven (07) days of receipt of the Contract Form, the successful Bidder shall sign and mention date of the contract and return it to the Procuring Agency.iii) Where no such formal signing is required by the procuring agency, 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 Criteria | <ul style="list-style-type: none">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 | <ul style="list-style-type: none">i) The Procuring Agency reserves the right at the time of contract |

Agency's Right to Vary Quantities at Time of Award

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 (c)(iv) of PPR-14 (not more than 15%)**.

2.6.6. Procuring Agency's Right to Accept or Reject All Bids

- i) As per rule 35 of PPR-14, the Procuring Agency reserves the right to accept or reject all Bids or proposals (and to annul the Bidding process) at any time prior to the acceptance of any Bid or proposal, without thereby incurring any liability towards the Bidders.
- 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 Fraudulent Practices

- i) The Procuring Agency Bidders, Suppliers, and Contractors observe the highest standard of ethics during the procurement and execution of contracts.

"Corrupt practices" in respect of procurement process, shall be as given in S-2 (d) of PPRA, Act, 2009, which is as follows:

"(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:

- 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;*
- 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;*

- iii. *Offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;*
- 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 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.”*

ii) Blacklisting & Debarment:

Blacklisted Bidders i.e. firms/companies/sole proprietors/ general order suppliers/ JVs etc. and those found involved in “Corrupt Practices” are not allowed to participate in bidding.

Requirements & Procedure for Blacklisting & Debarment:

As per S-17A of PPRA, Act, 2009: *As per rule 21 of PPR-14: or Sub rule (6) of 21.*

Note: The act of blacklisting the bidder/contractor/service provider by a procuring agency shall be limited to the extent that procuring agency. Furthermore, if a procuring agency intends to debar a bidder/contractor/service provider from participating in all the procuring agency of the Punjab it shall refer the matter to MD PPRA under section 17A (2) of PPRA act-2009 read with Rule 21(2) (b) of PPR-14.

Arbitration: Parties shall mutually settle disputes related to this contract. If attempts do not yield any results within a period of 30 days, The Vice Chancellor, University of Rasul shall be the Competent to resolve dispute(s) related to this contract and his decision shall be final.

Section-III. Technical Specifications

LOT 01

S.#	Name of Equipment	Specifications	Qty
01	SEM with EDS along with Coater	Technical Specifications Electron Optical System The electron gun should be a Tungsten hairpin filament type. The filament must be able to replace by the user, does not require a dedicated service engineer. The accelerating voltage should be variable from 5 kV to 20 kV in at least 4 steps. The magnification range should be variable from at least x10 to x100,000 times. Automatic alignment, focusing, astigmatism and brightness/contrast correction should be built-in. Specimen Chamber The maximum specimen size should be 80mm (diameter) x 50mm (height) and more. The maximum travel range in the X and Y directions must be at least 40mm and 40mm. The CCD colored camera should be built-in. The captured image by CCD should be utilized in order to specify the measurement point on the Graphic User Interface (GUI) as navigation function linked to stage movement. This system should have a function when we zoom up from the CCD image, it will continue seamlessly transit to the SEM image. Vacuum System The gun column and specimen chamber should be final evacuated by a Turbo Molecular Pump. The microscope must be supporting both high vacuum and low vacuum capability. The vacuum mode can be selected from GUI or the evacuation mode button of the main unit. When switching between high vacuum and low vacuum mode and vice versa should be less than 2 minutes. Signal Detection The microscope must be equipped with Secondary Electrons Detectors (SED) and back-scattered Electron detectors (BED). The changeover among the two detectors must be quick and easy. For the BED detector must be quad split semiconductor detector and the following imaging modes should be available: Compositional, Topographical, Compo/topo mixed signals and real time 3D images (Live 3D) under both high vacuum and low vacuum conditions. It should be possible to display two kinds of images (SE image and BE image) side by side simultaneously. Besides it should be possible to mix SE signal and BE signal and displayed as one images. Image processing software In should be possible to combine multiple successive images and displayed as one montage images. This function should be available for both SEM images and EDS mapping images. The specification of image area should be performed optical images captured by a CCD camera. The digital images should have resolution better than 5,120 x 3,840 pixels and should be saved in either BMP, TIFF or JPEG format. Besides can be saved in the AVI (Video file) format. An image processing software that is capable of doing linewidth measurement should be included. The software should be equipped with calibration capability. The software should have built-in standard image templates for report printing. It should also allow users to export all selected images in HTML format. Element analysis (EDS)	01

S.#	Name of Equipment	Specifications	Qty
		The detector must be able to detect elements from Beryllium to Uranium, and must have a window size of at least 30mm² or larger. The detector must be an LN2 free system using vibration free thermoelectric Peltier cooling technologies. The resolution of the detector at Mn Kα peak should be 133eV or better. Live EDS analysis should be standard feature on the system. At any time when an image is displayed, EDS spectrum and list of elements on that viewed area will be displayed live on the screen. EDS Live mapping should also be available. The EDS operation software should be configured qualitative analysis, quantitative analysis-ray mapping, line analysis, continuous analysis, standard specimen analysis and area analysis. The operation console of the EDS system must be integrated with the computer system of the SEM seamlessly, preferably both systems use the same graphical user interface operating from the same PC. All operation conditions of the SEM such as acceleration voltage, magnification, working distance etc. should be read by the EDS system immediately, so that analysis positions can be recalled easily precisely. Original, licensed EDS software with a comprehensive and up-to-date elemental database/library for qualitative and quantitative elemental analysis. Computer Operation System The computer system should be capable of the following configuration at least. a) Processor:64-bit, b) MEM:16GB or more, c) HDD:1TB or more, d) Drive: DVD+/-RW optical drive built-in, e) Interface:100/1000 Base-T (3 systems) and USB, f) Operating system: Windows 10 Professional 64-bit English version, g) Keyboard, Mouse and 24-inch LCD and HP Laser Jet Printer Carbon Coater must be quoted. Safety Features The protection against power supply failures, vacuum deterioration and ground fault should be built-in. Complete ducting and exhaust arrangements, as required for proper installation and operation of the equipment. Make: Japan, USA, European Complete installation and commissioning of the SEM, EDS, and coating system by the authorized supplier/manufacturer. Comprehensive on-site operational and application training for designated technical staff/users.	

LOT 02

S.#	Name of Equipment	Specifications		Qty
02	XRD	Name	Description	01
		Configurations	Theta/Theta geometry	
		Power	Compatible with 230 VAC, 50 Hz power supply or shall be supplied with all necessary power-conditioning/protection arrangements.	
		Measuring circle radius	160 mm	
		Scanning angular range	- 5° < 2-Theta < + 160° (depends on accessories)	
		Angle positioning	Stepping motors with optical encoders	
		Angular accuracy	Better than ± 0.02° over the whole 2-Theta range	
		Angular resolution	< 0.04 2-Theta on LaB6 (110) peak	
		X-ray generator	3 KW	
		Max. output voltage	60 kV	
		Max. output current	60 mA	
		X-ray tube	Glass (option ceramic), Cu anode (option: Co, Fe, Cr, Mo, W, Ag)	
		Focus	0.4x8 mm FF (Fine Focus) (options: 0.4x12 mm LFF; 1x10 mm NF)	
		Divergence Slit	Variable 0-4°	
		Scattering Slit	Variable 0-4°	
		Receiving Slit	0.1/20 mm	
		Interchangeable Soller Slits	2.3° (standard) (options: 1°, 2°, 4°)	
		Detector	Advacam MiniPix-TPX3 2D solid-state hybrid pixel detector	
		Sample Holders	Steel Back Loading	
			Steel Side Loading	
			Steel Massive Sample Holder	
			Si zero background sample holder	
			Multiple Sample Holder	
		Standard	Suitable set of certified reference standards for instrument verification, calibration, and routine performance validation shall be supplied. Complete calibration equipment/accessories required for proper calibration and performance verification of the XRD system shall be included.	
		Software	Original, registered/licensed software for instrument control, data acquisition, processing, analysis, and reporting shall be provided. Adopts a specific modular design software package able to support the user in all activities. Software supports several type of analysis, from Data Acquisition, having the full control of all the process and hardware settings (motors, X-ray generator and tube, detector, measurement set up), to Data Analysis. Match! is an easy-to-use software for phase identification from powder diffraction data. It compares the diffraction pattern of your sample to a database containing reference patterns in order to identify the phases present in the sample. Additional knowledge about the sample like known phases, chemical elements or density can be applied. In addition to this qualitative analysis, a quantitative analysis (using either RIR method or Rietveld refinement) can be performed as well. End user can easily setup and run Rietveld refinements within Match! with the actual calculations being performed automatically, using the well-known program Foolproof in the background. Match! provides	

S.#	Name of Equipment	Specifications		Qty
			a gentle introduction into Rietveld refinement, from fully automatic operation to the "Expert" mode. As reference database, you can apply the included free-of-charge COD database and/or ICSD/Retrieve (if you have a valid license), use any ICDD PDF 5+, and/or create a user database based on your own diffraction patterns.	
		Personal Computer	Inter Core i7, 16GB Ram, 1TB hard drive, Windows 11 Professional, Monitor: 24"	
		Water Cooling System	Standard power supply, single phase 230Vac $\pm 10\%$.	
			Cooling capacity W 3600	
			Total input power W 1500	
		Complete ducting, installation and commissioning, Comprehensive on-site training for designated technical and scientific personnel covering system operation, data acquisition, analysis, and routine maintenance.		

LOT 03

S.#	Name of Equipment	Specifications	Qty
03	Photoluminescence system	Specifications: Illumination Source: Pulse Xenon lamp (with 1 spare lamp) with user defined Power Settings (120 kW or compatible). Technology: Preferred for Phosphorescence and with samples where photo-bleaching is a concern. Peak Power: Includes 4 Peak Power settings:(a) 120Kw(b) 80Kw (c) 40Kw(d) 20Kw Resolution: 1.0, 2.5, 5, 10, 20nm Wavelength accuracy: 0.5nm Wavelength reproducibility: 0.2nm Wavelength scan speed: Max. 24,000 nm/min Response: ≥ 0.002, seconds Communication: USB 2.0 Detector: PMT R928 Monochromator: 1200 grooves/mm Sensitivity (S/N ratio): Min 750 :1 (RMS) Wavelength range (Ex and Em): 200 - 900 nm standard Slit width: 1, 2.5, 5, 10, 20 nm Display range: 0 ~ 260000 Filter Wheel: 12 slots that accept standard 12.5 mm round filters. Standard Excitation Filters: 3 Excitation filters included (290, 370, 530 nm) Standard Emission Filters: 3 Emission filters included (320, 430, 515 nm) Event Marker button (included): The event marker electronically identifies where/when within the data stream the sample introduction occurred. Software: Spectrum™ FL Standard Spectrum™ FL (licensed) Enhanced Security (ES). Software Functionality: Spectra Scan, 3D-Spectra Scan, Quantification, Anisotropy/Polarization. (in Spectra Scan & Single Read), Single Read, Time Drive, Kinetics, Intracellular ion conc. Quantum yield (Relative and Absolute), Quenching, Wavelength Program, Lifetime, Absorbance, Validation, Sipper Control, Service Utility, Pre-Scan Mode, Synchronous scan mode (constant energy and wavelength), 3D Synchronous scan, Sample Table, Read FLWinLab Data Files, Read UV Data Files. Operating System: Windows® 10, 64 bit Power Supply: 100-240V at 50-60Hz Reference standards: Suitable certified calibration standards required for calibration and performance & Appropriate PL reference standard(s) for routine validation and verification RECTANGULAR CELL, 10MM, LID, QUARTZ PK/2 Branded Computer with 20" LED Monitor	01

S.#	Name of Equipment	Specifications	Qty
		Printer hp Laser Jet 3 in 1. UPS true on Line (of adequate capacity) Make: USA, JAPAN, European Complete installation and commissioning of the system, comprehensive on-site training for designated users.	

LOT 04

S.#	Name of Equipment	Specifications	Qty
04	Atomic Absorption Spectrometer system	System specifications should be: Spectrometer: *The spectrometer must have real time double-beam optics. The instrument must have deuterium background correction. The Monochromator must have wavelength range: 190 – 900 nm and wavelength selection must be automated and controlled through the instrument computer. The Monochromator must be Littrow design with motorized drive for automatic wavelength selection and peaking. The instrument must have at least three separate bandwidth slits that are automatically selectable. These slits must be 0.2, 0.7, and 2.0 nm. Detector should be wide-range segmented solid-state detector, including a built-in low-noise CMOS charge amplifier array. The instrument must have a motorized, computer controlled, and eight lamp turret with built-in power supply for EDL lamps. All lamp alignments must be accomplished automatically through the instrument controller. Flame Atomizer Gas Controls: Should be fully computer-controlled with oxidant and fuel monitoring. Keyboard-activated remote ignition system with air-acetylene. Acetylene flow should automatically adjust prior to the oxidant change when switching to or from nitrous oxide-acetylene operation. Safety Functions: Should have interlocks to prevent ignition if the proper burner head, the nebulizer/end cap, or the burner drain system is not correctly installed; the liquid level in the drain vessel is incorrect; or gas pressures are too low. Interlocks should also automatically shut down burner gases if a flame is not detected, or if any of the other interlock functions are activated. Provision should include for safe shutdown from all operating modes in the event of a power failure. Sample Introduction System: Modular sample introduction system should be consisting of the quick-change spray chamber, burner head and nebulizer units. Alignment of the flame in the light beam should be fully automatic, using a motorized burner mount for vertical and horizontal burner adjustment and automatic software-controlled self-optimization of the burner position. The optimization of the operating flame condition should also fully automatic and software controlled. The introduction system should be equipped with a high-strength inert mixing chamber, angled to ensure proper drainage. There should be a choice of high sensitivity corrosion-resistant plastic nebulizer or durable stainless-steel nebulizer. The standard should be all-titanium, 10-cm, single-slot burner head for air-acetylene operation. Complete electrical requirements and necessary electrical accessories for safe and proper operation. Suitable laboratory exhaust blower and complete ventilation/vent system, including necessary ducting and fittings System Software: Fully computer controlled operational software under the Microsoft Windows XP and Windows 11 operating environment. Original, registered/licensed software for the equipment Miscellaneous: A blower/vent assembly must be included. The gas regulators, air supply, must be included. Lamps & Standards: Silver Ag, Cadmium Cd, Iron Fe, Manganese Mn, Potassium K, Sodium Na, Calcium Ca, Chromium Cr, Cobalt CO, Copper Cu, Magnesium Mg, Gold Ag, Palladium Pd, Platinum Pt, Cesium Cs, Lithium Li, Rubidium Rb, Barium Ba, Beryllium Be, Calcium Ca, Mangananise Mn, Mercury Hg, Molybdenum Mo, Nickle Ni, Vobalt Co, Zirconium Zr, Tungstun W, Vanadium V. Computer :- Core i7 with Printer hp LaserJet.	01

S.#	Name of Equipment	Specifications	Qty
		Printer: - HP LaserJet Printer. UPS supported the complete system. (Uninterruptible Power Supply) of adequate capacity Make: USA / Japan / Germany Complete installation and commissioning of the AAS system, comprehensive on-site training for designated technical/scientific personnel	

LOT 05

S.#	Name of Equipment	Specifications	Qty
05	GC MS with FID and TCD	Gas chromatograph (GC) with detachable touchscreen interface. The detachable touchscreen should be able to connect with GC through wireless network. Optionally should be able to connect with GC through cable The GC should include detachable touch screen should provide real-time information on the status of analysis. The GC should provide retention time (RT) repeatability of 0.008% for C14 and The Autosampler should be field upgradeable with high capacity after installation The Autosampler should provide < 0.1% RSD for packed columns (suitable GC-MS columns appropriate for routine analytical applications) 1% C9 in C7 with 1 µL injected on FID The GC should provide smart gas management to optimize gas consumption. The GC system must accept two injectors and three detectors plus MS simultaneously installed. The GC shall have programmable pneumatic control (PPC) for all pneumatics parameters or equivalent. Fast oven-temperature-program steps to allow quicker analysis and improved detection limits with maximum settable rate of 115°C/minute. Maximum oven temperature 450°C The GC column oven should be able to cool down from 450 °C to 50 °C is less than 4.0 The capillary injector must be programmable in pneumatics (Carrier flow, split flow etc.) and in temperature. It must support hot split\splitless, programmable temperature split\splitless, cool on column and Large Volume injection mode. Max. Temperature 500°C MS transfer line heatable up to 350°C Mass spectrometer detector specifications: The mass spectrometer shall have an operating mass range not less than 1.0-1200 u. Sensitivity: • Electron ionization full scan mode of 1500:1 (RMS) for 1 pg of octafluoronaphthalene. 1 • Positive chemical ionization full scan mode of 1.200:1 (RMS) for 100 pg of benzophenone. • Negative chemical ionization full scan mode of 10.000:1 (RMS) for 1 pg of octafluoronaphthalene. The mass spectrometer must come standard with a single, wide-range vacuum gauge covering the range of atmosphere down to 1x10⁻⁷ torr. The mass spectrometer must be capable of acquiring 65 scans/sec in full scan and 100 scans/sec in SIM (single ion monitoring) mode with scanning speed up to 12.500 Da\second. The mass spectrometer must come standard with RF-only prefilter rods to prevent contamination on the analytical quadrupole. The quadrupole must be solid metal to allow cleaning of any contaminants; thin film metalizations over nonconductive materials are not acceptable. The quadrupole analyzer must not require heating to prevent loss of performance upon injection of samples containing water (both liquids and head space). The mass spectrometer must allow the user to remove the ion source without removing quadrupole assembly. Changing the ion source and Assembly/demounting must be easy and a tools-free operation.	

S.#	Name of Equipment	Specifications	Qty
		Electrical connections to the ion source must be made automatically on inserting the ion source – without any wires needing individual connections which might slip off or possibly get misconnected. The mass spectrometer must allow both the transfer line and ion source to be independently heated to 350 °C The mass spectrometer must allow the user to remove the ion source and filament from the front of the instrument to reduce bench space requirements. The mass spectrometer must allow the user to change the filament without removing the quadrupole assembly. Filament must be made with latest generation coated material and suitable for EI and CI. Vacuum pump accessories and essential replacement/maintenance components required for reliable operation shall be provided. Filaments (including spare) with low resistance to oxidation materials like tungsten are not acceptable The mass spectrometer must be capable of performing both positive chemical ionization (CI+) and negative chemical ionization (CI-). The mass spectrometer must be capable of acquiring EI spectra using the CI ion source. The mass spectrometer must allow the user to change from electron ionization (EI) to chemical ionization (CI) without removing the quadrupole assembly. The mass spectrometer detector shall be a discrete dynode electron multiplier. The mass spectrometer shall have a 270° off-axis detector to prevent photons, x-rays, and metastable-created ions from raising the spectrum background noise level. The mass spectrometer analyzer must be a linear quadrupole mass filter. 2 The mass spectrometer must be able to accept gas chromatographic column flow rates up to 5 mL/min Helium using a direct capillary interface (i.e., without using an open split or jet separator interface) The mass spectrometer software must operate under Windows 10. The mass spectrometer software must include multiple industry-standard (environmental and forensic) reports. The mass spectrometer software (Original, registered/licensed software) must be capable of customized reporting. The mass spectrometer system software must be capable of acquiring data simultaneously from both the mass spec and up to two standard GC detectors (e.g., FID) on the same gas chromatograph. The mass spectrometer system software (Original, registered/licensed software) must be capable of acquiring intermixed and time-overlapping full scan and SIM data for maximum sensitivity. The mass spectrometer must be able to maintain a mass accuracy of ± 0.1 m/z over 48 hours. The MS should be supplied with the OPTIONAL NIST 2020 mass spectral database and use NIST MS Search v2.4 software. The system should be supplied with adequate Win 10 PC and Printer Installation and training should be done by certified experts from the manufacturer. True on line UPS (with adequate capacity) should be supplied. Suitable gas cylinders with compatible regulators, along with gas purification traps/filters for removal of moisture, oxygen, hydrocarbons, and other impurities from the gas supply, shall be supplied. Also quote H2 and N2 Generators in Options and Cylinders as required. A complete laboratory ventilation/exhaust system, including necessary ducting and fittings. Installation, commissioning, and comprehensive user training shall be provided.	

LOT 06

S.#	Name of Equipment	Specifications	Qty
06	UV-visible Spectrometer	Specifications should be: Wavelength range: 190-1100 nm (designs with wavelength expansion kit to extend the measurement wavelength range will be preferred) Spectral Bandwidth: 0.5, 1, 2, 5, 20 nm Detector: Si diodes, high sensitivity Sample and Reference Source lamp: Tungsten / Deuterium (Spare lamps) Absorbance Range: $\pm 4A$ Wavelength Accuracy: ± 0.1 nm at D2 peak @ 656.1 nm, ± 0.3 nm for full range. Wavelength Reproducibility: ± 0.1 nm Wavelength Accuracy: ± 0.1 nm (656.1nm D2) ± 0.3 nm (all range) Wavelength Reproducibility: ≤ 0.05 nm (6 measurements at 656.1 nm, SD) ≤ 0.1 nm (all range) Photometric Noise: $< 0.00005A$ (700nm) Baseline Flatness: $\pm 0.0005A$ Photometric Accuracy: • $\pm 0.002A$ (0.5 A) • $\pm 0.003A$ (1 A) • $\pm 0.005 A$ (at 2 A) • $\pm 0.01A$ (60 mg/L PDC) • $\pm 0.01A$ (430 nm, 600 mg/L PDC) Photometric Repeatability: $<0.0001 A$ (at 0.5 A) $<0.0001 A$ (at 1 A) $<0.0003 A$ (at 2 A). Scans speed: 7.5 to 12,000 nm/min Stray Light: • $< 0.5\%$ (198 nm KCl) • $< 0.01\%$ (220 nm NaCl) • $< 0.01\%$ (340 nm, 370nm NaNO₂) • $< 1.0\%$ (300 nm Acetone) Cell holder(s), standard cuvettes, and quartz cuvettes (minimum 2 sets/pairs) compatible with the instrument shall be supplied. Temperature control facility for controlled-temperature measurements shall be provided. Suitable certified calibration standards/reference materials Software: Original, registered/licensed software Computer: Branded Computer Corei5 with 22" LED Monitor Printer: hp Laser jet printer 107A or equivalent. UPS: True Online UPS to support the system. Make: UK / Japan / USA / Germany Installation, commissioning, and comprehensive user training shall be provided by the authorized supplier/manufacturer.	01

LOT 07

S.#	Name of Equipment	Specifications	Qty
07	PCR	Block Format: 96-well format and 0.2 mL tube/plate compatibility; 20–50 μL sample volume. Display: touch-screen LCD. For Use With (Application): Real-time quantitative PCR system. Capacity: programmable gradient 30–95°C with 1–20°C temperature differential. Essential consumables and accessories required for routine PCR operation shall be supplied. Display Type: Color TFT LCD delete Interface: USB Voltage: 100 V to 240 V Wattage: 600 W delete Block Configurations: 96-well Max. Ramp Rate: 96-well normal: 8.0°C/sec; 96-well Fast: 10.0°C/sec. Thermal Uniformity: $\pm 0.2^\circ C$; Fast $\pm 0.3^\circ C$. Exact 30-sec test condition should be confirmed. Thermal Accuracy: $\pm 0.2^\circ C$ accuracy. Thermal Range: 4.0–99.9°C No. of Programs: $> 1,000$ protocols	

S.#	Name of Equipment	Specifications	Qty
		Product Type: Thermal Cycler Hertz: 50-60 Hz Suitable certified calibration standards/reference materials for instrument calibration and performance verification shall be provided. The system shall have fluorescence detection capability and compatibility with commonly used fluorescent dyes/chemistries, as applicable to the specified PCR applications. Original, registered/licensed software for instrument control, data acquisition, analysis, and reporting UPS: True on Line (with adequate capacity) UPS support the system. Make: USA, UK, and JAPAN. Installation, commissioning, and comprehensive user training shall be provided	

LOT 08

S.#	Name of Equipment	Specifications	Qty
08	FT IR with Diamond UATR	Specifications: FT-IR system platform: Robust, portable and Sealed Sampling accessories and application packages ensure the best solution. Suitable electrical power supply and associated electrical arrangements Wavelength Range: 8300 - 350 cm-1 with KBr Resolution: 0.5 cm-1 Precision: 0.01 cm-1 Interferometer: Self-compensating for dynamic alignment, High stability. Source: Stabilized Long-life source. Detector: High linearity room temperature detector. Beam splitter: KBr. Can work under high range of humidity Diamond Universal ATR for solid, liquid & gas direct sampling. The ATR system detachable not built-in. Should be included all the accessories for solid, liquid & gas sampling. Software: A single software platform incorporates all of the functions required for infrared analyses; instrument control, data manipulation and analysis, and flexible report utilities. A suitable instrument cleaning and maintenance kit Original, registered/licensed software UPS: 3KV True Online to support complete system. Computer: Branded Computer with 18.5" LED Monitor with laser Printer. Make: UK/Japan/USA/Germany Calibration control and certified reference standard(s) suitable for routine calibration, performance verification, and quality control of the FTIR system shall be provided. Site preparation, installation, calibration, commissioning, and comprehensive user training shall be provided	01

LOT 09

S.#	Name of Equipment	Specifications	Qty
09	HPLC	Specifications are equivalent or Better: HPLC should be latest technology, Microprocessor Controlled Binary System. PUMP: Pump should be piston type. Flow rate range should be 0.01 to 10.0 mL/min. Maximum operating pressure rang should be more than 6000 psi. Flow Precision should be at least 0.3% Flow Accuracy should be +1% at 1ml/min. Linearity should be Within 1% from 10 to 90% or better. Suitable injector/autosampler system compatible with the supplied HPLC configuration Appropriate HPLC vials with caps/septa suitable for the supplied autosampler Uv/Vis Detector: Wavelength Range 190 - 700 nm Wavelength Accuracy ± 1 nm Wavelength Precision ± 1 nm Bandwidth 5 nm Linearity ≥ 2.5 AU (with 5% deviation) Data Acquisition Rate 100 pt/sec (Hz) Sensitivity Range 0.0005 to 3.000 AUFS in 0.0001 increments from 0.0005 to 0.1, and 0.01 increments above 0.1 AUFS Noise	01

S.#	Name of Equipment	Specifications	Qty
		Optics Dual beam Light Sources Deuterium (190 - 360 nm) or Tungsten (360 - 700 nm), pre-focused, no adjustment required on replacement Flow Cell Volume 12.7 µL Standard 4 µL optional cell available Maximum Pressure 580 psi / 40 bar Wetted Materials Synthetic quartz, fluoropolymer, and stainless steel (SUS316) Spare lamps, cuvettes, quartz cuvettes shall be provided Suitable ultrapure water supply/purification system, waste containers for HPLC solvent collection, gas supply arrangements including nitrogen and helium cylinders with compatible regulators and accessories where required, and a suitable water-cooling/chiller system for the instrument or detector, as applicable, shall be provided. Refractive Index Detector: The High-Performance Diode Array Detector (DAD/PDA) must feature a high-resolution optical design with a stable holographic grating and a minimum of 1024 photodiode elements to ensure exceptional spectral resolution. It must utilize a dual-lamp system containing both Deuterium (D₂) and Tungsten/Halogen lamps to seamlessly cover a wavelength range of at least 190 nm to 800 nm, achieving a wavelength accuracy of ±1.0 nm or better with automated self-calibration. To accommodate high-speed, modern chromatography and narrow peaks, the detector must support a data acquisition rate of up to 80 Hz or higher, while maintaining an ultra-low baseline noise level of <5×10⁻⁶ AU and a baseline drift of <10⁻³ AU/hour. The system must offer a broad linearity range of >2.0 AU and allow the simultaneous recording of at least 8 standalone data channels alongside continuous 3D spectral field acquisition. The unit must include a standard, high-sensitivity flow cell with a 10 mm path length, a cell volume of <13uL, a pressure rating of at least 60 bar, and integrated electronic temperature control to eliminate ambient thermal baseline drift. For safety and data integrity, the instrument must feature a built-in leak sensor with safe fluid handling, automated diagnostics, and comprehensive software support for real-time peak purity analysis and spectral library matching. Bidders must supply a clause-by-clause compliance sheet verified by official manufacturer brochures, and the system must be backed by a comprehensive warranty including lamps, parts, and preventative maintenance. Pressure Limit: 14 psi / 1 bar Wetted Materials Quartz glass, fluorine-containing resin, and SUS316 Peltier Column Oven: Temperature Range 5 - 90 °C, with 1 °C increments 5 - 75 °C, with 1 °C increments if optional Column Selection Valve is installed Temperature Accuracy Better than 0.1 °C Temperature Stability Better than 0.1 °C Temperature Rate Heat @ 10 °C/min from 40 to 60 °C Technology • Integrated solvent preheater • Optional column selection valve allows automated column switching of up to 6 columns • Peltier heating/cooling • Accommodates longer columns (up to 30 cm) Safety Features • Temperature and vapor safety sensors with alarm and shutoff. Software: Chrom CDS Software (Original, registered/licensed software) comprehensive feature set supports 21 CFR Part 11 compliance – providing tools and infrastructure to meet regulatory or internal standards. Chrome CDS Software fully controls HPLC Portfolio and offers fast and secure Ethernet control and data collection– including the collection, processing and display of 3D spectral data from the PDA detector. Chrom CDS Software also features a report editor to create customized reports to meet user specific needs. Photodiode Array Detector License for Chrom CDS Software Chrom CDS Software latest version requires an additional license for the PDA Detector which unlocks the full power of PDA data processing via Chrom CDS Software fully integrated UV spectral processing tools. Software should include: Software Original CD along with USB License key and Utilities CD. Column: Column: Analytical C18 Qty.05 with different dimensions Suitable guard columns compatible with the specified analytical columns The system should be included all operational & fittings kits. Computer: Branded with 22" LED Monitor. A dedicated computer workstation with Intel Core i7 processor or higher, Windows 11 or latest manufacturer-	

S.#	Name of Equipment	Specifications	Qty
		supported operating system, minimum 1 TB storage, and adequate RAM for seamless operation of the supplied HPLC software shall be provided. Printer: - HP LaserJet Printer 107A or equivalent. Vacuum Degassing should be 3-5Channel along with bottles. Filtration Assembly with Vacuum pump & Filters (Nylon). UPS true online 5KVA. Make: USA /Japan/ UK. Site preparation, installation, commissioning, calibration, and comprehensive user training shall be provided	

**TECHNICAL SPECIFICATIONS FOR THE PROCURMENT OF LAB EQUIPMENT
FOR CENTRAL RESOURCE LAB UNIVERSITY OF RASUL, MANDI BAHAUDDIN,**

Lot – 1			
S. #:	NAME OF ITEMS	TECHNICAL SPECIFICATIONS Brand/ Model/ Country of Origin, Etc	Quantity

Lot – 2			
S. #:	NAME OF ITEMS	TECHNICAL SPECIFICATIONS Brand/ Model/ Country of Origin, Etc	Quantity

Lot – 3			
S. #:	NAME OF ITEMS	TECHNICAL SPECIFICATIONS Brand/ Model/ Country of Origin, Etc	Quantity

Lot – 4			
S. #:	NAME OF ITEMS	TECHNICAL SPECIFICATIONS Brand/ Model/ Country of Origin, Etc	Quantity

Lot – 5			
S. #:	NAME OF ITEMS	TECHNICAL SPECIFICATIONS Brand/ Model/ Country of Origin, Etc	Quantity

Lot – 6			
S. #:	NAME OF ITEMS	TECHNICAL SPECIFICATIONS Brand/ Model/ Country of Origin, Etc	Quantity

Lot – 7			
S. #:	NAME OF ITEMS	TECHNICAL SPECIFICATIONS Brand/ Model/ Country of Origin, Etc	Quantity

Lot – 8			
S. #:	NAME OF ITEMS	TECHNICAL SPECIFICATIONS Brand/ Model/ Country of Origin, Etc	Quantity

Lot – 9			
S. #:	NAME OF ITEMS	TECHNICAL SPECIFICATIONS Brand/ Model/ Country of Origin, Etc	Quantity

Section-IV: Bid Data Sheet (BDS)

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 Clause No.	ITB Number	Amendments of, and Supplements to, Clauses in the Instruction to Bidders
1.	2.1.1	Name of Procuring Agency: University of Rasul The subject of procurement is: Procurement of Lab Equipment for Central Resource Lab University of Rasul Period for delivery of goods: [as per schedule of requirements] Commencement date for delivery of Goods: [Award Letter/Supply Order's Issuance Date]
2.	2.1.2	Financial year for the operations of the Procuring Agency: 2026-27 Name of Project/ Grant (Development or Non-Development): University of Rasul Project Name of financing institution: University of Rasul Name and identification number of the Contract: As mentioned in invitation to bids.
4.		Ineligible country(s) are [India, Israel]
5.	2.3.6(ii i)	Demonstration of authorization by manufacturer: required
B. Bidding Documents		
6.	2.2.2	The address for clarification of Bidding Documents is: Project Director Mandi Bahauddin University of Rasul Email: pd@uorm.edu.pk
8.	2.3.9	The number of bidding documents to be completed and returned is in one original.
C. Bid Price, Currency, Language and Country of Origin		
9	2.3.1	<i>The language of the bid: English</i>
10	2.3.4	The price quoted shall be in PKR and on " FOR Main Store, University of Rasul " basis.
11.	2.3.4	<i>The price shall be fixed.</i>
12.	2.1.4 (ii)	Country of origin: Ineligible country(s) are [India, Israel]
D. Preparation and Submission of Bids		
13.	2.2.2	Bid shall be submitted to: Project Director Saraye Alamgir Road Mandi B.Din University of Rasul
14.	2.4.2	The deadline for Bid submission is Date: 13-10-2026 till 11:00 AM
15.	2.5.1	The Bid Opening shall take place on same day at: 11:30 AM
16.	2.6.2	Amount of Performance Guarantee is 10 % of total contract value, in favor of Treasurer, University of Rasul
17.	2.3.8	Estimated Contract Price is: As mentioned in invitation to bids. The amount of Bid security is: As mentioned in invitation to bids. <i>Bid security shall be in Pakistan Rupees and shall be in one of the following forms i.e. as</i>

		<i>prescribed format by the PPRA</i>
18.	2.3.9	Bid validity period after opening of the Bid is: 120 days
E. Opening and Evaluation of Bids		
19.	2.5.1	Refer to BDS Clause No. 15-16
F. Bid Evaluation Criteria		
20.	2.5.8	Criteria to Bid evaluation as given below.

Evaluation Criteria (Eligibility & Qualification)

ITB 2.5.8	Criteria for bid evaluation: Lowest Delivered Duty Paid (DDP) Total Price package wise offered by the qualified responsive bidder.	
	A- Mandatory Criteria As per Qualification Criteria given above/ Knock down criteria (BDS clause 13) and any other specified with specifications	
Sr.#	Evaluation Criteria (Eligibility)	Requirement
1	Bid Security (as mentioned in invitation for bids or BDS)	Mandatory
2	Company Profile / Registration with supporting documents	Mandatory
2	Copy of CNIC of Owner/Authority Person along with Authority Letter from the Bidder Company authorizing the relevant person to represent the company.	Mandatory
3	Income Tax / Sales Tax with Active Taxpayer profile status (Professional Tax Certificate for Year 2025-26)	Mandatory
4	Bidder must have certificate of Manufacture/ Authorized dealer / partner Certificate	Mandatory
5	Affidavit on the stamp paper of Rs. 300/- to certify that • Bidder is not currently blacklisted by the Procuring Agency/PPRA. • 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 (PPRA – 14). • The provided information is correct.	Mandatory
6	A bidder shall be deemed non-responsive (as per PPRA rules) if, upon evaluation of bidder technical proposal, the item offered fails to adhere to the tender specification/Lot mandatory clauses (where applicable)	Mandatory
7	Bidder shall provide at least 3 years comprehensive onsite warranty from the manufacturer on account of spare parts and services after installation	Mandatory
8	Bidder must provide declaration for the availability of Spare Parts for next 10 Years after the Warranty Period.	Mandatory

- a. The proposals will be evaluated based on the submitted documents / evidences as per following criteria.

B- Marking Criteria			
Sec.#	Description	Max Marks	Marks Allocation
1	Company Profile, Experience etc.	(35)	
i.	Experience in years / Market Existence From the date of NTN Registration (NTN Certificate must be attached)	20	1 to 3 Year = 5 Marks +3 to 5 Years =10 Marks +5 to 8 Years 15 Marks Above 8 years= 20 Marks (Maximum 20 Marks)
ii.	Value of Projects Cost of Supply/ Installation having similar nature (attached Award letters)	20	60 to 120 M= 5 Marks +120 to 180 M =10 Marks +180 to 240 M =15 Marks Above 240 M= 20 Marks (Maximum 20 Marks)
2	Financial Position	(30)	
i.	Sum of Annual Sales /Annual Returns	20	60+ to 90 Million 4 Marks

	(Income Tax Returns FBR) for last 03 years (2023, 2024 & 2025) must be attached, otherwise, no marks shall be awarded.)		90+ to 120 Million 8 Marks 120+ to 150 Million 12 Marks 150+ to 180 Million 16 Marks Above 180 Million 20 Marks (Maximum 20 Marks)
ii.	Bank Balance / Credit Limit If bank balance / credit limit up-to 30 th June, 2026.	10	60+ to 90 Million 2 Marks 90+ to 120 Million 4 Marks 120+ to 150 Million 6 Marks 150+ to 180 Million 8 Marks Above 180 Million 10 Marks (Maximum 10 Marks)
3.	HR, Infrastructure & Satisfactory Supply proof	(10)	
I	Letter of Satisfaction after sale service by the client. Please attach satisfaction /completion/ appreciation letter. - (In case of missing information, no mark may be awarded.)	10	02 mark for each certificate (Maximum 10 marks)
4	Offices/ infrastructure/ Repair Facilities, Company Profile/ Products Demo	(10)	
I	List of offices with Complete address, ownership / rent agreement, years of office established on the same place. In case of missing information, no mark may be awarded.	10	head office = 6 marks Other than Head Office 2 marks Each office/ branch (Maximum 10 Marks)
	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 University of Rasul if required by Evaluation committee. Minimum 65% marks are mandatory overall.			

TECHNICAL EVALUATION PROCESS:

- 1. FINANCIAL BID OPENING:** - Financial Bid of those bidders shall be open whose technical bids are considered as qualified by the respective committee / office constituted by the Central Purchase Committee, UOR.
- 2. TECHNICAL ACCEPTANCE:** - Only the Bids securing minimum of 65% marks shall be declared technically accepted by the Evaluation Committee.
- 3. DOCUMENTARY PROOF:** - The bidder must provide verifiable documentary proof against all the mandatory requirements along with the Technical Proposal at the time of opening of the technical bid(s).
- 4. PHYSICAL DEMONSTRATION:** - The Central Purchase Committee and Technical Evaluation Committee may ask for physical demonstration of any item given in the Tender Document for confirmation of specifications.

G. Award of Contract

2.6.5	Percentage for quantity, which may be increased or decreased at the time of award of contract, is: 15% .
2.6.2	Performance Guarantee shall be: 10% of the Contract Price .
2.6.2	The Performance Security (or guarantee) may be in the form of Bank Guarantee valid for warranty period. Insurance guarantees/cheques or third-party undertakings shall not acceptable.

Section-V: General Conditions of Contract

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 of 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 and related 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, maintenance & repair 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 & Services, as named in SCC.
- (h) "The Procuring Agency's country" is the country named in SCC.
- (i) "The Supplier" means the Bidder or firm supplying the Goods and Services under this Contract.
- (j) "The Project Site," where applicable, means the place or places named in SCC.
- (k) "Day" means calendar day.

2. Application

2.1. These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

3. Country of Origin

[where applicable]

3.1. All Goods and Services supplied under the Contract shall have their origin in the countries and territories eligible under the rules, as further elaborated in the SCC.

3.2. For purposes of this Clause, "origin" means the place where the Goods were mined, grown, or produced, or from where the Services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized new product is obtained 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. In any case, the requirements of rules 10 & 26, PPR-14, shall be followed.

4. Standards

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 Contract Documents and Information; Inspection and Audit by the procuring agency.

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.

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 executing the Contract.

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 Guarantee

7.1. Within fifteen (15) days of receipt of the notification of Contract award, the successful Bidder shall furnish to the Procuring Agency the Performance Guarantee in the amount specified in SCC/Bid Data Sheet & 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. As per Rule-56 of PPR-14, 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 the Procuring Agency's country, in the form provided in the Bidding documents or another form acceptable to the Procuring Agency; or
- (b) a Bank Guarantee,

7.4. The performance guarantee will be discharged by the Procuring Agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in SCC.

8. Inspections 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. SCC and the Technical Specifications 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 nominated 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) (if so allowed by the Procuring Agency), 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 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's 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 Documents

[in case of Framework Modality the Procuring Agency may amend these condition as per its requirements]

10.1. Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Schedule of Requirements. The details of shipping and/or other documents to be furnished by the Supplier are specified in SCC.

10.2. Upon delivery, the Procuring Agency shall give receiving certificate to the supplier with the statement that, "completion certificate along with satisfactory report shall be issued after due inspection as per clause-8 of GCC, which will enable the supplier to put up the bill".

[Further conditions may be incorporated by the Procuring Agency keeping in view the nature of contract, DDP, CIF, C&F, FOR, FOP for example; for a DDP contract the clause may be as follows:].

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*.

10.4. Documents to be submitted by the Supplier are specified in SCC.

11. Insurance

[If required and decided by the Procuring Agency]

11.1. The Goods supplied under the Contract shall be delivered *[form of content to be decided by the Procuring Agency]* duty form paid under which risk is transferred to the buyer after having been delivered, hence *[details coverage to be decided by the Procuring Agency]* is sellers responsibility.

12. Transportation

12.1. The Supplier is required under the Contract to transport the Goods to a specified place of destination within the Procuring Agency's country, including insurance and storage, as shall be specified in the Contract, and related costs shall be included in the Contract Price.

13. Incidental Services

[If required and decided by the Procuring Agency]

13.1. The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:

- (a) satisfactory performance for specified time/ quantity on-site and/or supervision of on-site assembly and/or start-up of the supplied Goods;
- (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
- (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
- (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
- (e) Training of the Procuring Agency's personnel, at the

Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.

13.2. Prices charged by the Supplier for incidental services shall be included in the Contract Price for the Goods and shall not exceed:

- (i) the prevailing rates charged for other parties by the Supplier for similar services; and
- (ii) Original price of goods.

14. Spare Parts

*[If required and
decided by the
Procuring Agency]*

14.1. As specified in SCC, 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:

- (a) such spare parts as the Procuring Agency may choose to purchase from the Supplier, provided that this choice shall not relieve the Supplier of any warranty obligations under the Contract; and
- (b) in the event of termination of production of the spare parts:
 - (i) advance notification to the Procuring Agency of the pending termination, in sufficient time to permit the Procuring Agency to procure needed requirements; and
 - (ii) following such termination, furnishing at no cost to the Procuring Agency, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

15.1. The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models selected by the Procuring Agency, and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Procuring Agency's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

15.2. This warranty shall remain valid for the period mentioned in SCC, after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract, or for one and half years after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.

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 PPR-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 GCC Clause 10, and upon fulfillment of other obligations stipulated in the Contract.

16.3. As per rule-62 of PPR-14, payments shall be made promptly by the Procuring Agency, but in no case later than thirty (30) days after submission of an invoice or claim by the Supplier, provided the work is satisfactory.

16.4. The currency of payment is PKR.

17. Prices

17.1. Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its Bid, with the exception of any price adjustments authorized in SCC.

18. Change Orders

18.1. The Procuring Agency may at any time, by a written order given to the Supplier pursuant to GCC Clause 31, make changes within the general scope of the Contract, only if required for the successful completion of the job, in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Procuring Agency;
- (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 Amendments

19.1. Subject to GCC Clause 18, no variation in or modification of the terms of the Contract shall be made except by the mutual consent through written amendment signed by the parties. No variation in finalized brands/ makes/models shall be allowed except in special conditions where the manufacturer has stopped producing or

suspended that model or the latest model of similar series or version has been launched by the manufacturer or non-availability due to international mergers of the manufacturers or similar unavoidable constraints.

- 20. Assignment** 20.1. The Supplier shall not assign the whole of contract to anybody else. However, some parts of contract or its obligations may be assigned to sub-contractors with the prior written approval of the procuring agency.
- 21. Sub-contracts** 21.1. The Supplier shall notify the Procuring Agency in the Bid of all subcontracts to be assigned under this Contract. Such notification, in the original Bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.
21.2. Subcontracts must comply with the provisions of GCC Clause 20.
- 22. Delays in the Supplier's Performance** 22.1. Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the Procuring Agency in the Schedule of Requirements.
22.2. If at any time during performance of the Contract, the Supplier or its subcontractor(s) should 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 imposition of liquidated damages.
- 23. Liquidated Damages** 23.1. Subject to GCC 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 for each week 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 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:
(a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring Agency

pursuant to GCC Clause 22;

- (b) if the Supplier fails to perform any other obligation(s) under the Contract; or
- (c) if the Supplier, in the judgment of the Procuring Agency has engaged in corrupt practices in competing for or in executing the Contract. For the purpose of this clause, corrupt practices will be defined as per Section-2 (d) of The PPRA Act, 2009.

“Corrupt practices” in respect of procurement process, shall be as given in S-2 (d) of PPRA, Act, 2009:

(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:

- vi. 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;*
- vii. 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;*
- viii. offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;*
- ix. 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;*
- x. 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

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 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 an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Procuring Agency in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes. Both, the Procuring Agency and the Supplier, may agree to exclude certain widespread conditions e.g.: epidemics, pandemics, quarantine restrictions etc. from the purview of "Force Majeure".

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. Any difference of opinion concerning "Force Majeure" may be decided through means given herein below.

26. Termination for Insolvency

26.1. The Procuring Agency may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. 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 which has accrued or will accrue thereafter to the Procuring Agency.

27. Termination for Convenience

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.

27.2. The Goods that are complete and ready for shipment (if applicable) within thirty (30) days after the Supplier's receipt of notice of termination shall be accepted by the Procuring Agency on the Contract terms and prices. For the remaining Goods, the Procuring Agency may choose:

- (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 for partially completed Goods and Services and for materials and parts previously procured by the Supplier.

28. Resolution of Disputes	28.1. After signing the contract or issuance of purchase order, 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 Language	29.1. The Contract shall be written in the language specified in SCC. Subject to GCC Clause 30, the version of the Contract written in the specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.
30. Applicable 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 any information technology mean for the time being in use and acceptable in ordinary course of business 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 Duties	32.1. Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods & Services to the Procuring Agency. In case of imposition of new taxes/duties or concession thereof after the deadlines for the submission of bids the effect thereof shall be borne or availed by the procuring agency as the case may be.

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.

Lot #	Name of Equipment	Specifications	Delivery Time
01	SEM with EDS along with Coater	Technical Specifications Electron Optical System The electron gun should be a Tungsten hairpin filament type. The filament must be able to replace by the user, does not require a dedicated service engineer. The accelerating voltage should be variable from 5 kV to 20 kV in at least 4 steps. The magnification range should be variable from at least x10 to x100,000 times. Automatic alignment, focusing, astigmatism and brightness/contrast correction should be built-in. Specimen Chamber The maximum specimen size should be 80mm (diameter) x 50mm (height) and more. The maximum travel range in the X and Y directions must be at least 40mm and 40mm. The CCD colored camera should be built-in. The captured image by CCD should be utilized in order to specify the measurement point on the Graphic User Interface (GUI) as navigation function linked to stage movement. This system should have a function when we zoom up from the CCD image, it will continue seamlessly transit to the SEM image. Vacuum System The gun column and specimen chamber should be final evacuated by a Turbo Molecular Pump. The microscope must be supporting both high vacuum and low vacuum capability. The vacuum mode can be selected from GUI or the evacuation mode button of the main unit. When switching between high vacuum and low vacuum mode and vice versa should be less than 2 minutes. Signal Detection The microscope must be equipped with Secondary Electrons Detectors (SED) and back-scattered Electron detectors (BED). The changeover among the two detectors must be quick and easy. For the BED detector must be quad split semiconductor detector and the following imaging modes should be available: Compositional, Topographical, Compo/topo mixed signals and real time 3D images (Live 3D) under both high vacuum and low vacuum conditions. It should be possible to display two kinds of images (SE image and BE image) side by side simultaneously. Besides it should be possible to mix SE signal and BE signal and displayed as one images. Image processing software In should be possible to combine multiple successive images and displayed as one montage images. This function should be available for both SEM images and EDS mapping images. The specification of image area should be performed optical images captured by a CCD camera. The digital images should have resolution better than 5,120 x 3,840 pixels and should be saved in either BMP, TIFF or JPEG format. Besides can be	90 Days

Lot #	Name of Equipment	Specifications	Delivery Time
		saved in the AVI (Video file) format. An image processing software that is capable of doing linewidth measurement should be included. The software should be equipped with calibration capability. The software should have built-in standard image templates for report printing. It should also allow users to export all selected images in HTML format. Element analysis (EDS) The detector must be able to detect elements from Beryllium to Uranium, and must have a window size of at least 30mm² or larger. The detector must be an LN2 free system using vibration free thermoelectric Peltier cooling technologies. The resolution of the detector at Mn Kα peak should be 133eV or better. Live EDS analysis should be standard feature on the system. At any time when an image is displayed, EDS spectrum and list of elements on that viewed area will be displayed live on the screen. EDS Live mapping should also be available. The EDS operation software should be configured qualitative analysis, quantitative analysis-ray mapping, line analysis, continuous analysis, standard specimen analysis and area analysis. The operation console of the EDS system must be integrated with the computer system of the SEM seamlessly, preferably both systems use the same graphical user interface operating from the same PC. All operation conditions of the SEM such as acceleration voltage, magnification, working distance etc. should be read by the EDS system immediately, so that analysis positions can be recalled easily precisely. Original, licensed EDS software with a comprehensive and up-to-date elemental database/library for qualitative and quantitative elemental analysis. Computer Operation System The computer system should be capable of the following configuration at least. a) Processor:64-bit, b) MEM:16GB or more, c) HDD:1TB or more, d) Drive: DVD+/-RW optical drive built-in, e) Interface:100/1000 Base-T (3 systems) and USB, f) Operating system: Windows 10 Professional 64-bit English version, g) Keyboard, Mouse and 24-inch LCD and HP Laser Jet Printer Carbon Coater must be quoted. Safety Features The protection against power supply failures, vacuum deterioration and ground fault should be built-in. Complete ducting and exhaust arrangements, as required for proper installation and operation of the equipment. Make: Japan, USA, European Complete installation and commissioning of the SEM, EDS, and coating system by the authorized supplier/manufacturer. Comprehensive on-site operational and application training for designated technical staff/users.	

Lot #	Name of Equipment	Specifications		Delivery Time
02	XRD	Name	Description	90 Days
		Configurations	Theta/Theta geometry	
		Power	Compatible with 230 VAC, 50 Hz power supply or shall be supplied with all necessary power-conditioning/protection arrangements.	
		Measuring circle radius	160 mm	
		Scanning angular range	- 5° < 2-Theta < + 160° (depends on accessories)	
		Angle positioning	Stepping motors with optical encoders	
		Angular accuracy	Better than ± 0.02° over the whole 2-Theta range	
		Angular resolution	< 0.04 2-Theta on LaB6 (110) peak	
		X-ray generator	3 KW	
		Max. output voltage	60 kV	
		Max. output current	60 mA	
		X-ray tube	Glass (option ceramic), Cu anode (option: Co, Fe, Cr, Mo, W, Ag)	
		Focus	0.4x8 mm FF (Fine Focus) (options: 0.4x12 mm LFF; 1x10 mm NF)	
		Divergence Slit	Variable 0-4°	
		Scattering Slit	Variable 0-4°	
		Receiving Slit	0.1/20 mm	
		Interchangeable Soller Slits	2.3° (standard) (options: 1°, 2°, 4°)	
		Detector	Advacam MiniPix-TPX3 2D solid-state hybrid pixel detector	
		Sample Holders	Steel Back Loading Steel Side Loading Steel Massive Sample Holder Si zero background sample holder Multiple Sample Holder	
		Standard	Suitable set of certified reference standards for instrument verification, calibration, and routine performance validation shall be supplied. Complete calibration equipment/accessories required for proper calibration and performance verification of the XRD system shall be included.	
		Software	Original, registered/licensed software for instrument control, data acquisition, processing, analysis, and reporting shall be provided. Adopts a specific modular design software package able to support the user in all activities. Software supports several type of analysis, from Data Acquisition, having the full control of all the process and hardware settings (motors, X-ray generator and tube, detector, measurement set up), to Data Analysis. Match! is an easy-to-use software for phase identification from powder diffraction data. It compares the diffraction pattern of your sample to a database containing reference patterns in order to identify the phases present in the sample. Additional knowledge about the sample like known phases, chemical elements or density can be applied. In addition to this qualitative analysis, a quantitative analysis (using either RIR method or Rietveld refinement) can be performed as well. End user can easily setup and run Rietveld refinements within Match! with the actual calculations being performed automatically, using the well-known	

Lot #	Name of Equipment	Specifications	Delivery Time
		program Foolproof in the background. Match! provides a gentle introduction into Rietveld refinement, from fully automatic operation to the "Expert" mode. As reference database, you can apply the included free-of-charge COD database and/or ICSD/Retrieve (if you have a valid license), use any ICDD PDF 5+, and/or create a user database based on your own diffraction patterns. Personal Computer Inter Core i7, 16GB Ram, 1TB hard drive, Windows 11 Professional, Monitor: 24" Water Cooling System Standard power supply, single phase 230Vac $\pm 10\%$. Cooling capacity W 3600 Total input power W 1500 Complete ducting, installation and commissioning, Comprehensive on-site training for designated technical and scientific personnel covering system operation, data acquisition, analysis, and routine maintenance.	
03	Photoluminescence system	Specifications: Illumination Source: Pulse Xenon lamp (with 1 spare lamp) with user defined Power Settings (120 kW or compatible). Technology: Preferred for Phosphorescence and with samples where photo-bleaching is a concern. Peak Power: Includes 4 Peak Power settings:(a) 120Kw(b) 80Kw (c) 40Kw(d) 20Kw Resolution: 1.0, 2.5, 5, 10, 20nm Wavelength accuracy: 0.5nm Wavelength reproducibility: 0.2nm Wavelength scan speed: Max. 24,000 nm/min Response: ≥ 0.002, seconds Communication: USB 2.0 Detector: PMT R928 Monochromator: 1200 grooves/mm Sensitivity (S/N ratio): Min 750 :1 (RMS) Wavelength range (Ex and Em): 200 - 900 nm standard Slit width: 1, 2.5, 5, 10, 20 nm Display range: 0 ~ 260000 Filter Wheel: 12 slots that accept standard 12.5 mm round filters. Standard Excitation Filters: 3 Excitation filters included (290, 370, 530 nm) Standard Emission Filters: 3 Emission filters included (320, 430, 515 nm) Event Marker button (included): The event marker electronically identifies where/when within the data stream the sample introduction occurred. Software: Spectrum™ FL Standard Spectrum™ FL (licensed) Enhanced Security (ES). Software Functionality: Spectra Scan, 3D-Spectra Scan, Quantification, Anisotropy/Polarization. (in Spectra Scan & Single Read), Single Read, Time Drive, Kinetics, Intracellular ion conc. Quantum yield (Relative and Absolute), Quenching, Wavelength Program, Lifetime, Absorbance, Validation, Sipper Control, Service Utility, Pre-Scan Mode, Synchronous scan mode (constant energy and wavelength), 3D Synchronous scan, Sample Table, Read FLWinLab Data Files, Read UV Data Files. Operating System: Windows® 10, 64 bit Power Supply: 100-240V at 50-60Hz Reference standards: Suitable certified calibration standards required for calibration and performance & Appropriate PL reference standard(s) for	90 Days

Lot #	Name of Equipment	Specifications	Delivery Time
		routine validation and verification RECTANGULAR CELL, 10MM, LID, QUARTZ PK/2 Branded Computer with 20" LED Monitor Printer hp Laser Jet 3 in 1. UPS true on Line (of adequate capacity) Make: USA, JAPAN, European Complete installation and commissioning of the system, comprehensive on-site training for designated users.	
04	Atomic Absorption Spectrometer system	System specifications should be: Spectrometer: * spectrometer must have real time double-beam optics. The instrument must have deuterium background correction. The Monochromator must have wavelength range: 190 – 900 nm and wavelength selection must be automated and controlled through the instrument computer. The Monochromator must be Littrow design with motorized drive for automatic wavelength selection and peaking. The instrument must have at least three separate bandwidth slits that are automatically selectable. These slits must be 0.2, 0.7, and 2.0 nm. Detector should be wide-range segmented solid-state detector, including a built-in low-noise CMOS charge amplifier array. The instrument must have a motorized, computer controlled, and eight lamp turret with built-in power supply for EDL lamps. All lamp alignments must be accomplished automatically through the instrument controller. Flame Atomizer Gas Controls: Should be fully computer-controlled with oxidant and fuel monitoring. Keyboard-activated remote ignition system with air-acetylene. Acetylene flow should automatically adjust prior to the oxidant change when switching to or from nitrous oxide-acetylene operation. Safety Functions: Should have interlocks to prevent ignition if the proper burner head, the nebulizer/end cap, or the burner drain system is not correctly installed; the liquid level in the drain vessel is incorrect; or gas pressures are too low. Interlocks should also automatically shut down burner gases if a flame is not detected, or if any of the other interlock functions are activated. Provision should include for safe shutdown from all operating modes in the event of a power failure. Sample Introduction System: Modular sample introduction system should be consisting of the quick-change spray chamber, burner head and nebulizer units. Alignment of the flame in the light beam should be fully automatic, using a motorized burner mount for vertical and horizontal burner adjustment and automatic software-controlled self-optimization of the burner position. The optimization of the operating flame condition should also fully automatic and software controlled. The introduction system should be equipped with a high-strength inert mixing chamber, angled to ensure proper drainage. There should be a choice of high sensitivity corrosion-resistant plastic nebulizer or durable stainless-steel nebulizer. The standard should be all-titanium, 10-cm, single-slot burner head for air-acetylene operation. Complete electrical requirements and necessary electrical accessories for safe and proper operation. Suitable laboratory exhaust blower and complete ventilation/vent system, including necessary ducting and fittings System Software: Fully computer controlled operational software under the Microsoft Windows XP and Windows 11 operating environment. Original, registered/licensed software for the equipment Miscellaneous: A blower/vent assembly must be included. The gas regulators, air supply, must be included. Lamps & Standards: Silver Ag, Cadmium Cd, Iron Fe, Manganese Mn, Potassium K, Sodium Na, Calcium Ca, Chromium Cr, Cobalt CO, Copper Cu, Magnesium Mg, Gold Ag, Palaadium Pd, Platinum Pt, Cesium Cs, Lithium Li, Rubidium Rb, Barium Ba, Beryllium Be, Calcium Ca, Mangananise Mn, Mercury Hg, Molybdinum Mo,	90 Days

Lot #	Name of Equipment	Specifications	Delivery Time
		Nickle Ni, Vobalt Co, Zirconium Zr, Tungstun W, Vanadium V. Computer :- Core i7 with Printer hp LaserJet. Printer: - HP LaserJet Printer. UPS supported the complete system. (Uninterruptible Power Supply) of adequate capacity Make: USA / Japan / Germany Complete installation and commissioning of the AAS system, ccomprehensive on-site training for designated technical/scientific personnel	
05	GC MS with FID and TCD	Gas chromatograph (GC) with detachable touchscreen interface. The detachable touchscreen should be able to connect with GC through wireless network. Optionally should be able to connect with GC through cable The GC should include detachable touch screen should provide real-time information on the status of analysis. The GC should provide retention time (RT) repeatability of 0.008% for C14 and The Autosampler should be field upgradeable with high capacity after installation The Autosampler should provide < 0.1% RSD for packed columns (suitable GC-MS columns appropriate for routine analytical applications) 1% C9 in C7 with 1 µL injected on FID The GC should provide smart gas management to optimize gas consumption. The GC system must accept two injectors and three detectors plus MS simultaneously installed. The GC shall have programmable pneumatic control (PPC) for all pneumatics parameters or equivalent. Fast oven-temperature-program steps to allow quicker analysis and improved detection limits with maximum settable rate of 115°C\minute. Maximum oven temperature 450°C The GC column oven should be able to cool down from 450 °C to 50 °C is less than 4.0 The capillary injector must be programmable in pneumatics (Carrier flow, split flow etc.) and in temperature. It must support hot split\splitless, programmable temperature split\splitless, cool on column and Large Volume injection mode. Max. Temperature 500°C MS transfer line heatable up to 350°C Mass spectrometer detector specifications: The mass spectrometer shall have an operating mass range not less than 1.0-1200 u. Sensitivity: • Electron ionization full scan mode of 1500:1 (RMS) for 1 pg of octafluoronaphthalene. 1 • Positive chemical ionization full scan mode of 1.200:1 (RMS) for 100 pg of benzophenone. • Negative chemical ionization full scan mode of 10.000:1 (RMS) for 1 pg of octafluoronaphthalene. The mass spectrometer must come standard with a single, wide-range vacuum gauge covering the range of atmosphere down to 1x10⁻⁷ torr. The mass spectrometer must be capable of acquiring 65 scans/sec in full scan and 100 scans/sec in SIM (single ion monitoring) mode with scanning speed up to 12.500 Da\second. The mass spectrometer must come standard with RF-only prefilter rods to prevent contamination on the analytical quadrupole. The quadrupole must be solid metal to allow cleaning of any contaminants; thin film mentalizations over nonconductive materials are not acceptable. The quadrupole analyzer must not require heating to prevent loss of performance upon injection of samples containing water (both liquids and head space). The mass spectrometer must allow the user to remove the ion source without removing quadrupole assembly. Changing the ion source and Assembly/de-mounting must be easy and a tools-free operation.	

Lot #	Name of Equipment	Specifications	Delivery Time
		Electrical connections to the ion source must be made automatically on inserting the ion source – without any wires needing individual connections which might slip off or possibly get misconnected. The mass spectrometer must allow both the transfer line and ion source to be independently heated to 350 °C The mass spectrometer must allow the user to remove the ion source and filament from the front of the instrument to reduce bench space requirements. The mass spectrometer must allow the user to change the filament without removing the quadrupole assembly. Filament must be made with latest generation coated material and suitable for EI and CI. Vacuum pump accessories and essential replacement/maintenance components required for reliable operation shall be provided. Filaments (including spare) with low resistance to oxidation materials like tungsten are not acceptable The mass spectrometer must be capable of performing both positive chemical ionization (CI+) and negative chemical ionization (CI-). The mass spectrometer must be capable of acquiring EI spectra using the CI ion source. The mass spectrometer must allow the user to change from electron ionization (EI) to chemical ionization (CI) without removing the quadrupole assembly. The mass spectrometer detector shall be a discrete dynode electron multiplier. The mass spectrometer shall have a 270° off-axis detector to prevent photons, x-rays, and metastable-created ions from raising the spectrum background noise level. The mass spectrometer analyzer must be a linear quadrupole mass filter. 2 The mass spectrometer must be able to accept gas chromatographic column flow rates up to 5 mL/min Helium using a direct capillary interface (i.e., without using an open split or jet separator interface) The mass spectrometer software must operate under Windows 10. The mass spectrometer software must include multiple industry-standard (environmental and forensic) reports. The mass spectrometer software (Original, registered/licensed software) must be capable of customized reporting. The mass spectrometer system software must be capable of acquiring data simultaneously from both the mass spec and up to two standard GC detectors (e.g., FID) on the same gas chromatograph. The mass spectrometer system software (Original, registered/licensed software) must be capable of acquiring intermixed and time-overlapping full scan and SIM data for maximum sensitivity. The mass spectrometer must be able to maintain a mass accuracy of ± 0.1 m/z over 48 hours. The MS should be supplied with the OPTIONAL NIST 2020 mass spectral database and use NIST MS Search v2.4 software. The system should be supplied with adequate Win 10 PC and Printer Installation and training should be done by certified experts from the manufacturer. True on line UPS (with adequate capacity) should be supplied. Suitable gas cylinders with compatible regulators, along with gas purification traps/filters for removal of moisture, oxygen, hydrocarbons, and other impurities from the gas supply, shall be supplied. Also quote H2 and N2 Generators in Options and Cylinders as required. A complete laboratory ventilation/exhaust system, including necessary ducting and fittings. Installation, commissioning, and comprehensive user training shall be provided.	

Lot #	Name of Equipment	Specifications	Delivery Time
06	UV-visible Spectrometer	Specifications should be: Wavelength range: 190-1100 nm (designs with wavelength expansion kit to extend the measurement wavelength range will be preferred) Spectral Bandwidth: 0.5, 1, 2, 5, 20 nm Detector: Si diodes, high sensitivity Sample and Reference Source lamp: Tungsten / Deuterium (Spare lamps) Absorbance Range: $\pm 4A$ Wavelength Accuracy: ± 0.1 nm at D2 peak @ 656.1 nm, ± 0.3 nm for full range. Wavelength Reproducibility: ± 0.1 nm Wavelength Accuracy: ± 0.1 nm (656.1nm D2) ± 0.3 nm (all range) Wavelength Reproducibility: ≤ 0.05 nm (6 measurements at 656.1 nm, SD) ≤ 0.1 nm (all range) Photometric Noise: $< 0.00005A$ (700nm) Baseline Flatness: $\pm 0.0005A$ Photometric Accuracy: $\pm 0.002A$ (0.5 A) $\pm 0.003A$ (1 A) $\pm 0.005 A$ (at 2 A) $\pm 0.01A$ (60 mg/L PDC) $\pm 0.01A$ (430 nm, 600 mg/L PDC) Photometric Repeatability: $< 0.0001 A$ (at 0.5 A) $< 0.0001 A$ (at 1 A) $< 0.0003 A$ (at 2 A). Scans speed: 7.5 to 12,000 nm/min Stray Light: $< 0.5\%$ (198 nm KCl) $< 0.01\%$ (220 nm NaCl) $< 0.01\%$ (340 nm, 370nm NaNO₂) $< 1.0\%$ (300 nm Acetone) Cell holder(s), standard cuvettes, and quartz cuvettes (minimum 2 sets/pairs) compatible with the instrument shall be supplied. Temperature control facility for controlled-temperature measurements shall be provided. Suitable certified calibration standards/reference materials Software: Original, registered/licensed software Computer: Branded Computer Corei5 with 22" LED Monitor Printer: hp Laser jet printer 107A or equivalent. UPS: True Online UPS to support the system. Make: UK / Japan / USA / Germany Installation, commissioning, and comprehensive user training shall be provided by the authorized supplier/manufacturer.	01
07	PCR	Block Format: 96-well format and 0.2 mL tube/plate compatibility; 20–50 μL sample volume. Display: touch-screen LCD. For Use With (Application): Real-time quantitative PCR system. Capacity: programmable gradient 30–95°C with 1–20°C temperature differential. Essential consumables and accessories required for routine PCR operation shall be supplied. Display Type: Color TFT LCD delete Interface: USB Voltage: 100 V to 240 V Wattage: 600 W delete Block Configurations: 96-well Max. Ramp Rate: 96-well normal: 8.0°C/sec; 96-well Fast: 10.0°C/sec. Thermal Uniformity: $\pm 0.2^\circ\text{C}$; Fast $\pm 0.3^\circ\text{C}$. Exact 30-sec test condition should be confirmed. Thermal Accuracy: $\pm 0.2^\circ\text{C}$ accuracy. Thermal Range: 4.0–99.9°C No. of Programs: $> 1,000$ protocols Product Type: Thermal Cycler Hertz: 50-60 Hz	90 Days

Lot #	Name of Equipment	Specifications	Delivery Time
		Suitable certified calibration standards/reference materials for instrument calibration and performance verification shall be provided. The system shall have fluorescence detection capability and compatibility with commonly used fluorescent dyes/chemistries, as applicable to the specified PCR applications. Original, registered/licensed software for instrument control, data acquisition, analysis, and reporting UPS: True on Line (with adequate capacity) UPS support the system. Make: USA, UK, and JAPAN. Installation, commissioning, and comprehensive user training shall be provided	
08	FT IR with Diamond UATR	Specifications: FT-IR system platform: Robust, portable and Sealed Sampling accessories and application packages ensure the best solution. Suitable electrical power supply and associated electrical arrangements Wavelength Range: 8300 - 350 cm⁻¹ with KBr Resolution: 0.5 cm⁻¹ Precision: 0.01 cm⁻¹ Interferometer: Self-compensating for dynamic alignment, High stability. Source: Stabilized Long-life source. Detector: High linearity room temperature detector. Beam splitter: KBr. Can work under high range of humidity Diamond Universal ATR for solid, liquid & gas direct sampling. The ATR system detachable not built-in. Should be included all the accessories for solid, liquid & gas sampling. Software: A single software platform incorporates all of the functions required for infrared analyses; instrument control, data manipulation and analysis, and flexible report utilities. A suitable instrument cleaning and maintenance kit Original, registered/licensed software UPS: 3KV True Online to support complete system. Computer: Branded Computer with 18.5" LED Monitor with laser Printer. Make: UK/Japan/USA/Germany Calibration control and certified reference standard(s) suitable for routine calibration, performance verification, and quality control of the FTIR system shall be provided. Site preparation, installation, calibration, commissioning, and comprehensive user training shall be provided	90 Days
09	HPLC	Specifications are equivalent or Better: HPLC should be latest technology, Microprocessor Controlled Binary System. PUMP: Pump should be piston type. Flow rate range should be 0.01 to 10.0 mL/min. Maximum operating pressure rang should be more than 6000 psi. Flow Precision should be at least 0.3% Flow Accuracy should be +1% at 1ml/min. Linearity should be Within 1% from 10 to 90% or better. Suitable injector/autosampler system compatible with the supplied HPLC configuration Appropriate HPLC vials with caps/septa suitable for the supplied autosampler Uv/Vis Detector: Wavelength Range 190 - 700 nm Wavelength Accuracy ±1 nm Wavelength Precision ±1 nm Bandwidth 5 nm Linearity ≥ 2.5 AU (with 5% deviation) Data Acquisition Rate 100 pt/sec (Hz) Sensitivity Range 0.0005 to 3.000 AUFS in 0.0001 increments from 0.0005 to 0.1, and 0.01 increments above 0.1 AUFS Noise Optics Dual beam Light Sources Deuterium (190 - 360 nm) or Tungsten (360 - 700 nm), pre-focused, no adjustment required on replacement Flow Cell Volume 12.7 µL Standard 4 µL optional cell available Maximum Pressure 580 psi / 40 bar Wetted Materials Synthetic quartz, fluoropolymer, and stainless steel (SUS316) Spare lamps, cuvettes, quartz cuvettes shall be provided	9 Days

Lot #	Name of Equipment	Specifications	Delivery Time
		Suitable ultrapure water supply/purification system, waste containers for HPLC solvent collection, gas supply arrangements including nitrogen and helium cylinders with compatible regulators and accessories where required, and a suitable water-cooling/chiller system for the instrument or detector, as applicable, shall be provided. Refractive Index Detector: The High-Performance Diode Array Detector (DAD/PDA) must feature a high-resolution optical design with a stable holographic grating and a minimum of 1024 photodiode elements to ensure exceptional spectral resolution. It must utilize a dual-lamp system containing both Deuterium (D2) and Tungsten/Halogen lamps to seamlessly cover a wavelength range of at least 190 nm to 800 nm, achieving a wavelength accuracy of ± 1.0 nm or better with automated self-calibration. To accommodate high-speed, modern chromatography and narrow peaks, the detector must support a data acquisition rate of up to 80 Hz or higher, while maintaining an ultra-low baseline noise level of $< 5 \times 10^{-6}$ AU and a baseline drift of $< 10^{-3}$ AU/hour. The system must offer a broad linearity range of > 2.0 AU and allow the simultaneous recording of at least 8 standalone data channels alongside continuous 3D spectral field acquisition. The unit must include a standard, high-sensitivity flow cell with a 10 mm path length, a cell volume of $< 13 \mu\text{L}$, a pressure rating of at least 60 bar, and integrated electronic temperature control to eliminate ambient thermal baseline drift. For safety and data integrity, the instrument must feature a built-in leak sensor with safe fluid handling, automated diagnostics, and comprehensive software support for real-time peak purity analysis and spectral library matching. Bidders must supply a clause-by-clause compliance sheet verified by official manufacturer brochures, and the system must be backed by a comprehensive warranty including lamps, parts, and preventative maintenance. Pressure Limit: 14 psi / 1 bar Wetted Materials Quartz glass, fluorine-containing resin, and SUS316 Peltier Column Oven: Temperature Range 5 - 90 °C, with 1 °C increments 5 - 75 °C, with 1 °C increments if optional Column Selection Valve is installed Temperature Accuracy Better than 0.1 °C Temperature Stability Better than 0.1 °C Temperature Rate Heat @ 10 °C/min from 40 to 60 °C Technology • Integrated solvent preheater • Optional column selection valve allows automated column switching of up to 6 columns • Peltier heating/cooling • Accommodates longer columns (up to 30 cm) Safety Features • Temperature and vapor safety sensors with alarm and shutoff. Software: Chrom CDS Software (Original, registered/licensed software) comprehensive feature set supports 21 CFR Part 11 compliance – providing tools and infrastructure to meet regulatory or internal standards. Chrom CDS Software fully controls HPLC Portfolio and offers fast and secure Ethernet control and data collection– including the collection, processing and display of 3D spectral data from the PDA detector. Chrom CDS Software also features a report editor to create customized reports to meet user specific needs. Photodiode Array Detector License for Chrom CDS Software Chrom CDS Software latest version requires an additional license for the PDA Detector which unlocks the full power of PDA data processing via Chrom CDS Software fully integrated UV spectral processing tools. Software should include: Software Original CD along with USB License key and Utilities CD. Column: Column: Analytical C18 Qty.05 with different dimensions Suitable guard columns compatible with the specified analytical columns The system should be included all operational & fittings kits. Computer: Branded with 22" LED Monitor. A dedicated computer workstation with Intel Core i7 processor or higher, Windows 11 or latest manufacturer-supported operating system, minimum 1 TB storage, and adequate RAM for seamless operation of the supplied HPLC software shall be provided.	

Lot #	Name of Equipment	Specifications	Delivery Time
		Printer: - HP LaserJet Printer 107A or equivalent. Vacuum Degassing should be 3-5Channel along with bottles. Filtration Assembly with Vacuum pump & Filters (Nylon). UPS true online 5KVA. Make: USA /Japan/ UK. Site preparation, installation, commissioning, calibration, and comprehensive user training shall be provided	

Section-VIII: Sample Forms

8.1 Bid Form / Bid Submission Covering Letter

Date: _____

To:

Project Director
University of Rasul

Dear Sir,

- a) We are hereby submitting our Proposal, which includes the Technical Proposal and the Financial Proposal sealed in two separate envelopes.
- b) Having examined the bidding documents and Appendixes we, the undersigned, in conformity with the said document, offer to provide the said items on terms of reference to be signed upon the award of contract for the sum indicated as per financial bid.
- c) We undertake, if our proposal is accepted, to provide the items / services comprised in the contract / purchase order within time frame specified, starting from the date of receipt of notification of award.
- d) We agree to abide by this proposal for the period of 120 days starting from the date of opening of the technical bid and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- e) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption.
- f) We understand that you are not bound to accept a lowest or any bid you may receive, and that you will not defray any expenses incurred by us in bidding.

Authorized Signature

(In full and initials)

Name and Designation of Signatory

Name of Firm and Address

Date signed: _____

Note: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

8.2. Manufacturer's Authorization Form

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

To:

Project Director
University of Rasul

WHEREAS *[name of the Manufacturer]*, 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]

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.

8.3. Bidder Profile Form

[To be attached with Technical Bid]

Firm Name			
Entity of Firm	☐ Individual ☐ Partnership ☐ Company ☐ Other		
Nature of Business	☐ Manufacturer ☐ Vendor/Supplier		
Registered Office Addresses / Branches			
Telephone / Fax			
Email			
Date & Place of Registration			
Company's NTN, Sales Tax and PST/PRA Reg. No.	NTN _____ S.T.N. _____ PST (Reg. with PRA) _____		
Owner's Detail	Name: _____ CNIC _____ Address _____		
Authorized/ Contact Person's Detail	Name: _____ CNIC _____ Address _____		
No. of Employees			
Year of Incorporation			
Annual Sales /Turnover (Provide relevant copies of annual tax returns)	2023-24	2024-25	2025-26
Details of Experience (Last Two Years)			
	Similar Project (Agency/Department)	Item Name	Value of total Projects /POs
1			
2			
3			
4			

8.4. Affidavit

[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 *[name of Procuring Agency]* 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 *[name of Procuring Agency]*. The undersigned further affirms on behalf of the firm that:

- (i) The firm is not currently blacklisted by the Procuring Agency.
- (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.

[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: _____

8.5. Performance Guarantee Form

To,

Project Director
University of Rasul

WHEREAS (Name _____ of _____ the Contractor/ _____ Supplier) _____ hereinafter called "the Contractor" has undertaken, in pursuance of "INVITATION TO BID FOR THE **"PROVISION OF LAPTOP"** procurement of the following:

1. [*Please insert details*].

(Here in after called "the Contract").

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

AND WHEREAS we have agreed to give the Contractor a Guarantee;

THEREFORE WE hereby affirm that we are Guarantor and responsible to you, on behalf of the Contractor, 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 Contractor to be in default under the Contract, and without cavil or argument, any sum or sums as specified by you, 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 _____ day of _____, 20__, or _____ [insert number of days] after the rectification of the Defects, whichever is later.

[NAME OF GUARANTOR]

Signature _____

Name _____

Title _____

Address _____

Seal _____

Date _____

8.6. Technical Bid Form

[To be attached with Technical Bid]

8.7. Contract Form

[To be signed & stamped by the Bidder]

THIS AGREEMENT made on the _____ day of _____ 20____ between **University of Rasul, Rasul** (hereinafter called "the Procuring Agency") on the one part and *[name of Supplier]* of *[city and country of Supplier]* (hereinafter called "the Supplier") on the other part:

WHEREAS the Procuring Agency invited Bids for certain goods and ancillary services, viz., *[brief description of goods and services]* 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 WITNESSETH 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 Bid Form and the Price Schedule submitted by the Bidder;
 - (b) The Schedule of Requirements;
 - (c) The Technical Specifications;
 - (d) The General Conditions of Contract;
 - (f) The Procuring Agency's Notification of Award.
 - (g) 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 rectify defects therein in conformity with all respects in accordance 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 and the rectification of defects therein, 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.

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.

Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Signed, sealed, delivered by _____ the _____ (for the Supplier)

8.8. Financial Bid Form/Price Schedule

[To be attached with Financial Bid]

LOT	Item Name	Brand / Model/ Country of Origin	Specification	Qty	Unit Rate inclusive of all Taxes	Total price (inclusive of all Taxes & Duties)
1	Scanning Electron Microscope SEM with EDS along with Coater					
2	X-ray Diffractometer XRD					
3	Photoluminescence Spectrometer					
4	Atomic Absorption Spectrometer system					
5	Gas Chromatograph Mass Spectrometer with GC MS with FID and TCD					
6	Double Beam Ultra Violet-Visible Spectrometer					
7	Real Time Polymerase Chain Reaction Machine PCR					
8	FT IR with Diamond UATR					
9	HPLC High Power Liquid Chromatograph with Accessories					
Total Amount						

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.
- Bid shall be evaluated on **Lot Wise** " The bidder can quote any lot in mentioned above.

Name & Designation of Authorized Person _____

Stamp & Signature of Bidder with Date _____

Section IX- Check List/Compliance Data Sheet

The provision of this checklist on bidder's letter head pad (duly signed & stamped) is an essential prerequisite along with submission of tenders (with technical proposal).

1.1. Packing of the Bid

Sr.	Description	YES/NO
1	Whether the Bid is submitted in Two Envelopes	
2	Technical Proposal & Financial Proposal	

1.2. Submission and Arrangement of Supporting Documents

Envelope A: Attachments of Technical Proposal		Attached YES/NO	Page#
1	Bid Form / Bid Submission Letter (as per form 8.1 of Bidding documents)		
2	2% Bid Security		
3	Copy of CNIC of the Owner / Authorized Person along with his / her Authority Letter		
4	Copy of Income Tax Registration Certificate with active taxpayer status		
5	Copy of Sales Tax Registration Certificate with active taxpayer status		
6	Affidavit / Undertaking (on the Stamp Paper of Rs.300 as per form 8.4 of bidding documents)		
7	Technical Bid Form (as per form 8.6 of Bidding documents)		
8	Bidder Profile Form (as per form 8.3 of Bidding documents)		
9	Professional Tax Certificate of Current FY 2025-26		
10	All required samples (if demanded) have been submitted in [<i>name of the Procuring Agency</i>] Main Store of the University.		
Note: All the above documents and any other supporting document must be numbered, and page number must be mentioned in the column specified for the purpose.			
Total Number of pages attached with the Technical Bid		_____ Pages	
11	Tender Document duly signed and stamped each page by the bidder must be attached at the end of the Technical Bid		

The Bidder must provide all the Supporting Documents, number all the pages of supporting documents, provide the page information and arrange the documents in the following order:

Envelope B: Attachments of Financial Proposal		Attached YES/No	Page #
1	Financial Bid Covering Letter duly signed and stamped by the bidder		
2	Financial Bid Form/ Price Schedule Form (as per form 8.8 of bid documents)		
3	Copy of 2% Bid Security		

Stamp & Signature of Bidder _____