



**HEAVY INDUSTRIES TAXILA**  
**PROJECT ARDIC**

Bid No. 5646/IT-11/Proc/ARDIC dated 10 Oct 2024

Standard Bidding Documents

For

***“Procurement of Expendables for Debugging Electronics”***

(Single Stage Two Envelope Method)

Bid Submission: **on or before 14 November 2024 at 1030 hours**

Bid Opening: **14 November 2024 at 1100 hours**

**ADVANCED RESEARCH DEVELOPMENT AND INFORMATION CENTER (ARDIC)  
HEAVY INDUSTRIES TAXILA  
TAXILA CANTT**

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**HEAVY INDUSTRIES TAXILA**  
**PROJECT ARDIC**

**TENDER NOTICE**

1. Sealed tenders are invited from reputed firms possessing NTN certificates for supply of under mentioned items. Procurement will be carried out in the light of PPRA and MoDP rules: -

Tender No.	Nomenclature	A/U	Qty	Delivery Period	Collection of Tender Documents	Date and Time of Tender	
						Submission	Opening
IT-11	Procurement of Expendables for Debugging Electronics Details as per Annexure "A"			06 x months after signing of contract	Available on PPRA Website	1030 hours on 14 Nov 2024	1100 hours on 14 Nov 2024

*\*Note: Annexure if not found can be obtained from ARDIC, Heavy Industries Taxila on any working day before deadline.*

2. Bidder must submit the following document along with check list attached at Section – C at time of submission of tender: -

- a. Photocopy of Registration / Pre-qualification / Indexation letter issued by the HIT
- b. (if avail).
- c. Copy of Registration certificate issued by Sales Tax Department
- d. Copy of NTN certificate.
- e. Attested copy of CNIC of Managing Director / Chief Executive Officer.
- f. Certificate on a judicial paper worth Rs 100 duly attested by Oath Commissioner that firm is neither defaulter nor blacklisted by any Govt Org directly or indirectly.
- g. Copy of registration letter with Govt / Semi Govt organization (if any).
- h. Postal order of Rs 2,000/- should be enclosed with Technical Bid in favour of Managing Director ARDIC.

**For further Information**

Deputy Assistant Director (Procurement)  
Tel: 051-9315333 (Extension: 63045)  
E-mail: [snpar@hit.gov.pk](mailto:snpar@hit.gov.pk)

**HEAVY INDUSTRIES TAXILA**  
**PROJECT ARDIC**

**INVITATION TO BIDS**

Bid No. 5646/IT- 11/Proc/ARDIC dated 10 Oct 2024

***“Procurement of Expendables for Debugging Electronics”***

Date: \_\_\_ Oct 2024

1. This Invitation to Tender (IT) follows the Procurement Notice (PN) or Procurement Advertisement (PA) for the subject procurement which will appear in 2 x newspaper (1 x English and 1 x Urdu).

2. The Heavy Industries Taxila (ARDIC) now invites sealed bids from eligible Suppliers for the Procurement of Expendables for Debugging Electronics. The complete original bids (both technical & commercial) properly filled in and enclosed in sealed envelope(s) must be delivered as under: -

<b><u>Ser</u></b>	<b><u>Activity</u></b>	<b><u>Response</u></b>	<b><u>Remarks</u></b>
a.	Bid submission	1030 hours on <b>14 Nov 2024</b>	<b><u>By Post.</u></b> Deputy Assistant Director (Procurement), ARDIC, Heavy Industries Taxila, Taxila Cantt <b><u>By Hand.</u></b> Tender Box available at Gate ARDIC Gate.
b.	Bid Opening (Technical)	1100 hours on <b>14 Nov 2024</b>	Venue Advanced Research Development and Information Center (ARDIC) HIT Taxila
c.	Bid Submission Address	ARDIC Gate, Heavy Industries Taxila, Taxila Cantt	Drop Tender document in Tender Box before deadline.

3. All bids must be accompanied by a Bid Security / Earnest Money in the form of Call Deposit Receipt (CDR), Bank Draft (BD) or Pay Order (PO) in favour of Managing Director (ARDIC), Heavy Industries Taxila as per the instructions provided in this IT.

4. Firms shall nominate an authorized representative, on the firm’s letterhead, with authority to conduct all business for and on behalf of the firms during the bidding process, and in case of award of contract, during the execution of contract. Appointment of the Lead Member shall be subsequently confirmed by submission of a valid Power of Attorney before signing of the contract by the firm winning the contract.

6. This IT consists of 21 x pages and comprises following forms: -

- a. Section – A. Invitation letter and general instructions to the firms.
- b. Annexure’s

7. Firms will fill and return, with their offers along with Annexures duly stamped / signed by the authorized person / signatory.

Yours faithfully,

Deputy Assistant Director (Procurement)  
Advanced Research Development and Information Center (ARDIC)  
Heavy Industries Taxila, Taxila Cantt

**GENERAL INSTRUCTIONS**

**Mandatory Conditions for the IT**

1. This IT contains some **MANDATORY CONDITIONS** (marked in bold capitals), which if not agreed in essence shall render the offer Null-and-Void without any legal ramification to the offered. No counter-offer of any **MANDATORY CONDITION** shall be accepted.

- a. No reference, written / oral will be made in the Bidding Documents or during the bidding process, of any previous contract concluded between the firm and the Procuring Agency or the firm with any other Procuring Agency inside or outside the territory of Pakistan.
- b. Any deviation (except for the **MANDATORY CONDITIONS**) due to non-acceptance of IT conditions should be highlighted alongwith the firm's changed offer / conditions. Bid may, however, be liable to rejection due to non-acceptance of any one or more conditions outlined by the Purchaser in this IT.

**Eligibility of Firms**

2. The bidding shall be conducted in line with the procedure as elaborated in the DPP&I-35 and any Regulations, Regulatory Guides, Procurement Guidelines or Instructions issued by the MoDP (from time to time) and is open to all the potential bidders. Eligibility criteria laid down in the DPP&I-35 will be followed strictly. Bidder will render a certificate as per format at **Annexure D** that the firm is neither defaulter / blacklisted by any Government Organization directly or indirectly nor any investigation / interrogation was ever carried out against the firm by any Pakistani or overseas intelligence / investigation agency; and the firm is fully eligible as per the DPP&I-35 (Revised 2019) to offer bid. Key points are as under: -

- a. **Ineligible Countries**. India and Israel.
- b. **Ineligible Firms**. A firm will be ineligible if: -
  - (1) Declared bankrupt / insolvent;
  - (2) Payments in favour of the firm is suspended in accordance with the judgment of a court of law;
  - (3) Legal proceedings are instituted against a firm involving an order suspending payments and which may result in declaration of bankruptcy or in any other situation entailing the total or partial loss of the right to administer and dispose of the property;
  - (4) The firm or its management / administration is convicted, by a final judgment, of any offence involving professional conduct;
  - (5) Firm is blacklisted and debarred due to corrupt and fraudulent practices, or performance failure or breach of bid securing declaration.
  - (6) A firm which has defaulted on two or more contracts with any of the Services HQ and DPEs until the satisfactory conclusions of the contract.

*\*Note: Administrative / legal action will be taken against an ineligible firm, if it participates in the tender.*

**Preparation and Delivery of Bid**

3. **Validity of Bid (MANDATORY Condition)**. Bids shall be valid for **180 x days** extendable to 180 x days from the date of opening of the Financial Proposal. This must be indicated in the Technical as well as the Financial Proposals.

4. **Late Submission.** Bids received after the appointed time will NOT be entertained and regarded as “POST BID OFFER”. The appointed time will, however, fall on the next working day in case of closed / forced holiday. HIT will not accept any excuse of delay occurring in the postal services.

5. **Delivery of Bids.** The firms shall submit offer in two separate envelopes i.e. Technical Proposal envelope, Financial Proposal envelope.

a. **Technical Proposal.** The offer should contain all the relevant specifications. “Technical Proposal”, “Tender Number” and “date of opening” should be clearly marked on the face of the envelope. Soft copy of the Technical Proposal will be provided inside the Technical Proposal envelope. Copy of the muted bid security / Earnest Money envelope (hiding the actual amount) will be placed inside the “Technical Proposal” envelope.

b. **Financial Proposal.** Only one copy of the offer (in original) indicating prices quoted in figures as well as in words along-with essential literature / brochure as per itemized cost for format at “**Schedule to Price Section - B**” be provided. “Financial Proposal”, “Tender Number” and “date of opening” should be clearly marked on the face of the envelope. The actual bid security / Earnest Money showing the amount will be placed inside the envelope of the “Financial Proposal”.

c. Both these offers will be sealed in separate envelopes, each bearing the stamp / signature of the bidder. Thereafter both the envelopes (Technical Proposal and Financial Proposal) along with the Bid Security envelope will be placed in one envelope (second cover) duly sealed, stamped, and signed. This cover should bear the address of Heavy Industries Taxila, IT number and date, and IT opening date. It should be addressed to following: -

To: Assistant Works Manager  
Deputy Assistant Director (Procurement) - Tender Document  
ARDIC Gate, Heavy Industries Taxila  
Tel: (051) 9315333 (63045)  
E-Mail: snpar@hit.gov.pk

d. **Postal Order.** Postal order of **Rs 2,000/-** should be enclosed with Technical Bid in favour of Managing Director (ARDIC)

**Participation and the Opening of IT**

6. **Participation in Bid Opening.** IT will be opened in the presence of the firms, who choose to attend on the assigned time, date and place.

a. Firms should send a representative with the knowledge of the content of the Bid who shall verify the information read out from submitted documents. Failure to send a representative or to point out any un-read Information by the firm’s representative shall indemnify the Procuring Agency against any claim or failure to read out the correct information contained in the Bid.

b. Representative should be a responsible authority and permitted signatory, competent to negotiate and sign the contract on the behalf of the supplier / firm, if required.

c. The firms’ representatives shall sign attendance sheet as proof of their attendance. Omission of firm’s signature on the record shall not invalidate the contents and affect the record.

7. **Opening of Tender.** Tender will be opened as per the procedures laid down in DPP&I-35 / HIT and at least thirty (30) minutes after the time specified for the submission of tender. In case of closed / forced holidays, tender opening time will be considered the same on the next working day.
- Technical Proposal i.e. without prices will be opened on the day of tender opening and will be sent for the Technical Scrutiny.
  - The “Financial Proposal” will be opened, when the Technical Proposal is accepted by the technical authorities. The date of opening for “Financial Proposal” will be intimated to the firm in advance.
  - The Financial Proposal will be returned to the firm un-opened along with the Bid Security / EM if the Technical Proposal is not technically accepted.
8. **Withdrawal of Offer.** Bidder cannot withdraw the offer before signing of the contract and within the validity period of offers. Any firm withdrawing its offer within the validity period can be placed under embargo for upto three year and the Bid Security / EM will be forfeited. Any change in the original IT condition will also be construed as withdrawal of offer.
9. **Rights Reserved.** HIT reserves the full rights to accept, reject or cancel all the offers including the lowest without assigning any reason. HIT reserves the right to increase / decrease the quantity of items, placed on the tender without any reference to the firm.

**Acceptance of Bids**

10. Bids technically approved by the Technical Scrutiny Committee will be accepted. In addition, Bids not opened and not read out at the tender opening shall not be considered further for evaluation.

**Bid Security / Earnest Money (EM)**

11. **The Bid Security / EM will be in the form of a CDR / Bank Draft / Pay Order in the favour of Managing Director (ARDIC), Heavy Industries Taxila, for the amount in Pakistan Rupees for FOR cases. Bid Security in the form of crossed cheque / cheques shall be liable for rejection. The bid security will be equivalent to 2% of the quoted value.**

12. The muted Bid Security / Earnest Money envelope will be opened with the **Technical Proposal**. Technical Proposals received without Muted Bid Security / Earnest Money or not as per the stipulated amount shall be liable to rejection.

13. **Return of Bid Security / Earnest Money.** In case a firm not qualifying during the technical scrutiny, its Financial Proposal (unopened) along with the Bid Security/ Earnest Money will be returned within 60 x working days on receipt of the Technical Scrutiny Report. In case a firm qualifies during the technical scrutiny, the Bid Security / Earnest Money will be returned after signing of the contract and on submission as well as confirmation of the Performance Bank Guarantee and Advance Bank Guarantee.

14. **Evaluation of Firm / Qualification Criteria.** Qualified Bidder as per evaluation criteria at Annexure “B” will be awarded the Contract. Participating firms should meet the scoring mentioned at Annexure B and ensure provision of relevant documents and data.

15. **Terms of Payment.**

- 100% payment on accepted goods within one month of delivery will be made by the CMA (DP) Rwp / CMA (HIT) Taxila Cantt to firm on production of required documents
- Partial payment against partial deliveries will NOT be allowed.

16. **Security Deposit / Performance Bank Guarantee (BG).** PBG will be provided from any scheduled Bank of the State Bank of Pakistan on Call Deposit Receipt (CDR), Bank Draft (BD), Pay Order (PO) or judicial stamped paper / e-stamp paper worth **Rs 100.00** in favour of CMA (HIT) /

CMA (DP). Provision of following unconditional and irrevocable BGs is a **MANDATORY CONDITION**: -

- a. **Performance Bank Guarantee (PBG)**. PBG equivalent to **5%** of the total contract value will be provided by the supplier along with the signed copy of the contract. The PBG will remain valid for upto 60 x days beyond the delivery period of last CRC / CRV
- b. **Warranty Bank Guarantee (WBG)**. WBG equivalent to **5%** of the total contract value will be provided 30 x days before the expiry of the delivery period. Return of PBG will be contingent upon submission of WBG. WBG will remain valid for upto 60 x days beyond the warranty period of the last lot.

**Note:** *Procuring Agency may retain PBG as WBG.*

17. **Warranty/ Guarantee**

- a. All goods/stores offered will be brand new, from the production year onwards in accordance with the approved drawing and specifications; and all the latest modifications / up-gradation will be incorporated in the equipment. The materials used, whether or not of his manufacture, should also be in accordance with the latest design and specifications.
- b. All goods/stores supplied under the contract shall have no defect, arising from design, materials, or workmanship.
- c. The warranty / guarantee will be provided on Warranty / Guarantee Form DPL- 15 / Letter of Guarantee and will be applicable for **12 Months** from the date of issuance of last CRC.
- d. The acceptance made only after functional qualification of the chemicals provided.
- e. Firm is bound to replace the chemicals store in case of functional disqualification.

18. **Force Majeure**

- a. The Parties (purchaser and supplier) will not be held responsible for any delay (e.g. delay in delivery of stores, delay in due payments etc) occurring in execution of the contract due to event of force majeure such as acts of God, War, Riots, Civil Commotion, Lockouts, Act of Foreign Government and its agencies and disturbance directly affecting the parties and events or circumstances on which the parties has no control. In such an event occurring at the supplier's end, the supplier shall inform the purchaser within 15 days of the happening and within the same timeframe about the discontinuation of such circumstances / happening in writing. Non-availability of raw material for the manufacture of stores or of export permit for the export of the contracted stores from the country of its origin or any third party license and exchange rate fluctuations after signing of the contract shall not constitute force majeure.
- b. Where the case of force majeure causes delay in the delivery of respective stores, and/or services or any other delivery and should such delay exceed a period of 6 (six) months, only purchaser shall have the right to terminate the contract. In case of termination by the buyer, the supplier shall deliver the items which, as of the effective date of termination, have been finished or items which are on the production line and are due to be completed within a specific timeline to be rendered by Supplier in writing.
- c. Any of the above-mentioned event or pandemic etc already occurring before the signing of the contract will not be considered as force majeure.



19. **Liquidated Damages / Late Delivery (LD)**. In the event of delay for more than 21 days in delivery of any task as per contract at Supplier's fault, the Supplier shall inform the purchaser before expiry of such delivery/completion period giving reasons / justification for it. The purchaser shall have the right to take following actions: -

- a. Cancel or terminate the contract as per the termination clause of this IT and purchase undelivered stores from elsewhere at the risk and expense of the Supplier, and/or.
- b. If the Purchaser agrees with the justification of delay provided by the Supplier, the Purchaser may extend the delivery period without imposing the LD charges. Such extensions will only be limited to two times. Third extension will be with LD.
- c. LD will be imposed when the Competent Purchase Officer is satisfied that the failure to supply the stores or complete the task within the scheduled delivery/ completion period has been for reasons within the control of the Supplier, and/or if the government has suffered loss for reasons of belated delivery. These LDs, if imposed, will be recovered upto maximum of 2% but not less than 1% (depending on the merit of the case as decided by Procuring agency) of the value of stores/supplied/ completed late per month or a part of a month for the period exceeding the original delivery/completion period, subject to the provision that the total LDs thus imposed will not exceed 10% of the total value of the late delivered stores and services etc.
- d. The purchaser's decision under this clause shall NOT be subjected to arbitration.

Note: SOP on imposition of LD charges is available at HIT website ([https://hit.gov.pk/tender/upload/tenders/Final\\_SOP\\_of\\_LD\\_charges\\_v1.10\\_by\\_Dir\\_Proc\\_final\\_approved.pdf](https://hit.gov.pk/tender/upload/tenders/Final_SOP_of_LD_charges_v1.10_by_Dir_Proc_final_approved.pdf)).

20. **Risk and Expense**. In the event of failure on the part of the Supplier to comply with the contractual obligation, the contract shall be cancelled at the risk and expenses of Supplier.

21. **Amendment in Contract (MANDATORY CONDITION)**. Amendment in contract, if required, shall be processed in writing and made with mutual agreement/consent of both the parties.

22. **Stamp Duty. As per Stamp Duty Act 1899, Firm is liable to pay stamp duty taxes @ 0.25% (25 paisa per Rs.100.00). Firm will deposit the amount on account of Stamp duty on TR / Challan form to Bank of Punjab and submit the deposit copy to this office at time of submission of Bill / Invoice.**

### **Inspection of the Store**

23. Inspection of the store will be carried out at (ARDIC) HIT Taxila Cantt. The store will be inspected/ tested in presence of firm representative. All store will be physically inspected by inspection board to confirm that item is new & packed as per specification. Item should be fully functional, otherwise it will be rejected.

24. The net offered price will be inclusive of **18 % GST** or as per applicable Govt rules at the time of contract. The offers without mentioning of 18% GST will not be considered. The **GST will always be mentioned separately** to the base price.

25. In case of any dispute regarding the terms and conditions and the quality of stores, the decision of the MD (ARDIC)/Chairman HIT will be considered as final and binding on the suppliers/firms.

26. Confirmation of manufacturer, brand and **Approval of Advance Sample (where ever asked)** as per specifications mentioned in IT. Manufacturer brand of each item must be highlighted in the bid.

27. **All the potential firms are strongly encouraged to apply and give consent of participation in this IT, well before time. Any request for extension in opening date should**

**reach this office at least 48 hours before closing dates and time. Such request should not be considered as binding on HIT for Extension and remains HIT's prerogative to safeguard and decide whether to extend or not.**

28. **Disqualification**. Offers are liable to rejection, if: -
- a. Offer is made through Fax / Email / Cable / Telex.
  - b. Received later than appointed / fixed date and time or contradicting to binding terms;
  - c. Not agreeing to the MANDATORY CONDITIONS of this IT.
  - d. Offers are found conditional or incomplete in any respect.
  - e. Postal order as per para - 5d above is NOT attached with the offer.
  - f. Manufacturer's relevant brochures and technical details on major equipment assemblies are NOT attached in support of specifications; or
  - g. Bid Security NOT mentioned in the Technical Proposal.
  - h. If validity of offer is NOT quoted as specified in para-3 above or made subject to confirmation later.
  - i. Tender specifications / requirement not conforming in general (except MANDATORY CONDITION) which have to be agreed.
  - j. "Multiple offers".
  - k. There is any deviation from General /Special / Technical Instructions provided.
  - l. Offers (Financial / Technical) containing non-initialed / unauthenticated amendments / corrections / overwriting.
  - m. "Multiple rates are quoted against one item".
  - n. If offer is found to be based on cartel action in connivance with other sources / participants of the tender.

**Official Secret Act / Non-Disclosure Agreement**

29. All matters connected with this enquiry and subsequent actions arising there from come within the scope of the Official Secret Act, 1923. The firms are requested to ensure complete secrecy regarding the documents and the stores concerned with the enquiry and to limit the number of employees having access to this information.

**Redressal of Grievances**

30. Any bidder feeling aggrieved by any act of this Procuring Agency after submission of bid and prior to the award of contract may lodge a written complaint to the Grievances Redressal Committee (GRC) constituted by the Procuring Agency under Rule-48 of PPRA - 2004. Composition and procedure of the GRC is as under: -

- a. Composition
  - (1) President. Director Technical (Dir Tech)
  - (2) Members
    - (a) Member Finance (MF)
    - (b) Director Procurement (Dir Proc)
    - (c) Managing Director (ARDIC)
- b. Procedure
  - (1) Bidder may lodge a written complaint addressed to (Managing Director ARDIC) not later than fifteen days after the announcement of bid evaluation report under Rule - 35 of PPRA - 2021. Complaint received 15 days after the announcement of Bid Evaluation Report will not be entertained.

- (2) Decision of GRC shall be intimated to the complainant within 15 x days of filing the written complaint.
- (3) Decisions of the GRC shall be binding on all the parties.
- (4) Bidders lodging an appeal must be clear that act of lodging a complaint shall not warrant suspension of procurement of procurement process.
- (5) Firm having mala fide intentions of undermining the procurement / development process by lodging a complaint shall be liable to disciplinary action.
- (6) Firms will highlight specific grievance in the complaint to be addressed and will avoid unnecessary blame game.
- (7) Complaint must be personally signed by the authorized signatory and must be delivered through registered mail on the address mentioned in this document.

**Miscellaneous**

31. **Address**. Address for submission of Bids and lodging complaints to the GRC is as under: -

- a. Submission of Bidding Documents.      Assistant Works Manager  
Deputy Assistant Director (Procurement)  
ARDIC Gate (Tender Document)  
Heavy Industries Taxila, Taxila Cantt  
Tel: 051-9315333 (Extension 63045)  
E-Mail: snpar@hit.gov.pk
  
- b. Lodging complaints.                      Managing Director (ARDIC)  
Heavy Industries Taxila, Taxila Cantt  
Tel: 051-9315188  
E-Mail: mdar@hit.gov.pk

**SCHEDULE OF REQUIREMENT AND DELIVERY**

1. The delivery schedule expressed as: -

Ser	Part No & NOMENCLATURE	AU	Qty Req	Specification
1.	Stm32f4 Stm32f407 Discovery Kit Arm Cortex-m4 Development Board or equivalent	Nos	2	STM32F407VG Microcontroller with Onboard Audio Peripherals and Integrated ST-LINK Debugger
2.	Blue Pill STM32f103C8T6 STM32F103 ARM Cortex-M3 Minimum System Development Board or equivalent	Nos	5	STM32F103C8T6 Cortex-M3 core, CPU speed of 72 MHz and 64K flash memory, 20K SRAM with motor control peripherals
3.	NUCLEO-L401RE STM32 Nucleo development board with STM32L152RET6 MCU or equivalent	Nos	3	STM32 Nucleo development board with STM32F401RE MCU, 512KB flash memory
4.	STM8S003F3P6 STM8 Minimum Development Board or equivalent	Nos	5	STM8S003F3P6, 8 bit core with 8kb flash, 16MHz clock
5.	Arduino UNO R3 Development Board or equivalent	Nos	3	ATmega328P (8-bit AVR core) · Clock Speed: 16 MHz, 1kb of EEPROM, 2KB SRAM, 32KB FLASH
6.	Arduino MEGA 2560 PRO Mini Compatible With ATMEGA2560-16AU And CH340G or equivalent	Nos	3	Microcontroller: ATmega2560 with on board USB-TTL converter: CH340, Clock Frequency: 16MHz; Memory Size: 256kb; SRAM Size: 8Kb; EEPROM Size: 4Kb; Length × Width: 38×54mm
7.	ARDUINO DUE AT91SAM3X8E ARM Cortex-M3 Board or equivalent	Nos	1	Microcontroller: AT91SAM3X8E, 32-bit ARM core microcontroller, 54 digital input/output pins, Flash Memory: 512 KB; SRAM: 96 KB; Clock Speed : 84 MHz
8.	Arduino Mega Atmega2560 With Cable – 16U2 or equivalent	Nos	3	Microcontroller: ATmega2560; Frequency: 16MHz; Memory Size: 256kb; SRAM Size: 8Kb; EEPROM Size: 4Kb; Length × Width: 53×99 mm
9.	ESP32 WROOM-32 38-pins Wifi+Bluetooth MCU Module or equivalent	Nos	3	CPU Tensilica Dual-Core 32-bit 240 MHz LX6 processors; integrated 520 Kb SRAM Wifi 802.11 b/g/n/e/l; Bluetooth v4.2 BR/EDR and BLE; 4MByte Flash Temperature Range -40 to 125 Deg C.

10.	ESP8266-12E WiFi Module or equivalent	Nos	5	NodeMCU ESP8266 Wifi Development Board – Amica V2, 160MHz clock, 36Kb flash, 4Mb flash
11.	Arduino Pro Mini 3.3V 8Mhz ATMEGA328P or equivalent	Nos	20	Atmega 328p, 32KB of flash; 2KB of SRAM and 1KB of EEPROM, 8MHZ clock, Dimensions: 18x33mm
12.	HM-19 Bluetooth 5.0 Transparent Serial Port Master-Slave Module CC2640 MCU or equivalent	Nos	20	BLE Module : Support 4.2 and 5.0, default 2M bandwidth connection, compatible with 1M bandwidth, HM-19
13.	ESP32 SX1278 LORA Module – TTGO 433Mhz LORA or equivalent	Nos	10	Development board from TTGO combining the Latest ESP32 ESP-WROOM-32D, Semtech SX1278 LORA Transceiver, 0.96 inch blue OLED display and Lithium battery charging on a single board
14.	SX1278 LoRa Module 433MHz 10KM Ra-02 Wireless Spread Spectrum Transmission Module or equivalent	Nos	20	wireless transmission module based on SEMTECH's SX1278 wireless transceiver; Sensitivity: down to -148dBm; Programmable bit rates: up to 300kbps; RSSI dynamic range: 127dB; Wireless frequency: 433MHZ
15.	SMA Female jack bulkhead to IPX IPEX U.FL MHF4 RF pigtail jumper cable 0.81mm or equivalent	Nos	40	SMA Female jack bulkhead to IPX IPEX U.FL MHF4 RF pigtail jumper cable 0.81mm
16.	433MHz SMA Antenna Male Type with SMA Male Connector or equivalent	Nos	20	433MHz SMA Antenna Male Type with SMA Male Connector
17.	12 dbi 433Mhz Antenna half-wave Dipole antenna SMA Male with Magnetic base or equivalent	Nos	20	12 dbi 433Mhz Antenna half-wave Dipole antenna SMA Male with Magnetic base
18.	NVIDIA Jetson Orin Nano Developer Kit (8GB) or equivalent	Nos	2	GPU: NVIDIA Ampere architecture with 1024 NVIDIA® CUDA® cores and 32 Tensor cores; CPU: 6-core Arm Cortex-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3; Memory: 8GB 128-bit LPDDR5 68 GB/s; Storage: external via microSD slot external NVMe via M.2 KeyM; Power: 7W to 15W
19.	NVIDIA Jetson AGX Orin 64GB Developer Kit or equivalent	Nos	2	GPU: 2048-core NVIDIA Ampere architecture GPU with 64 Tensor Cores; GPU Max Frequency: 1.3 GHz; CPU: 12-core Arm® Cortex®-A78AE v8.2 64-bit CPU 3MB L2 + 6MB L3; CPU Max Frequency: 2.2 GHz; Memory: 64GB 256-bit LPDDR5 204.8GB/s

20.	NVIDIA JETSON NANO B01 4GB Ram Developer Kit based on JETSON NANO 16GB EMMC Module Board or equivalent	Nos	2	128-core NVIDIA Maxwell™ GPU; Quad-core ARM® A57 CPU; 4 GB 64-bit LPDDR4 RAM
21.	8GB Ram Raspberry Pi 5 or equivalent	Nos	3	2.4GHz quad-core 64-bit Arm Cortex-A76 CPU, with cryptography extensions 512KB per-core L2 caches 2MB shared L3 cache; VideoCore VII GPU, supporting OpenGL ES 3.1, Vulkan 1.2 Dual 4Kp60 HDMI® display output with HDR support; 4Kp60 HEVC decoder; 8GB DDR4; Bluetooth 5.0/Bluetooth Low Energy (BLE) MicroSD card slot, with support for high-speed SDR104 mode 2x USB 3.0 ports, supporting simultaneous 5Gbps operation 2x USB 2.0 ports
22.	Raspberry Pi 4 8gb Ram Model b Quad Core Cpu 1.5ghz Development Board or equivalent	Nos	3	Broadcom BCM2711, Quad-core Cortex-A72 (ARM v8) 64-bit SoC 1.5GHz; 8GB LPDDR4-2400 SDRAM; 2.4 GHz and 5.0 GHz IEEE 802.11ac wireless; Bluetooth 5.0, BLE
23.	Argon ONE V2 Case for Raspberry Pi 4 or equivalent	Nos	3	Case for Raspberry Pi 4; Two full-sized HDMI ports; IR receiver installed in the case; Both manual and automatic boot after power outage; GPIO accessibility from top; integrated with noiseless fan
24.	Argon ONE V3 M.2 NVME PCIE Case or equivalent	Nos	3	Case for Raspberry Pi 5; M.2 NVME Expansion Board support Built-in HEATSINK; aluminium heatsink specific to M.2 drive; Power button support; Built-in IR receiver
25.	Sandisk Flash Drive ULTRA FAIR 32GB or equivalent	Nos	10	3.0 Flash Drive 32GB storage
26.	1.54 inch Paper Screen e-paper module or equivalent	Nos	5	1.54 inch Screen e-paper module
27.	4.3 Inch Serial Interface E paper Display or equivalent	Nos	5	4.3 Inch Serial Interface E paper Display
28.	2.13 Inch Epaper Module E-paper E-Ink Elnk Display Screen SPI Support For Arduino UNO STM32 Raspberry PI ESP32 or equivalent	Nos	10	2.13 Inch E-paper Display Screen SPI Support
29.	0.91 Inch 128×32 Oled Lcd Display Module or equivalent	Nos	10	0.91 Inch 128×32 Oled Lcd Display Module

30.	OLED 1.3 Inch Display Module 128x64 I2C Communicate 4pin Ssd1106 Blue Text Color or equivalent	Nos	10	OLED 1.3 Inch Display Module 128x64 I2C Communicate 4pin Ssd1106 Blue Text Color
31.	fully enclosed 15" Universal Mount Touch Screen (Resistive Single- Touch, DC) or equivalent	Nos	1	fully enclosed 15" Universal Mount Touch Screen (Resistive Single- Touch, DC)
32.	fully enclosed 15" Universal Mount Monitor (Glass (non-touch), DC) or equivalent	Nos	1	fully enclosed 15" Universal Mount Monitor (Glass (non-touch), DC)
33.	TZT 2.4" 2.42 inch 128x64 OLED LCD Display Module SSD1309 12864 7 Pin SPI/IIC I2C Serial Interface or equivalent	Nos	3	2.42-inch 128x64 OLED LCD Display Module SSD1309 12864 7 Pin SPI/IIC I2C Serial Interface
34.	3.7V 3400mAh Rechargeable 18650 Li-Ion Battery Cell – New or equivalent	Nos	40	3.7V 3400mAh Rechargeable 18650 Li-Ion Battery Cell – New
35.	EM18 – 125Khz RFID Reader Module or equivalent	Nos	3	125Khz RFID Reader Module; EM4001 Tag Compatible; TTL and RS232 Output; Detects RFID cards within a 100mm range
36.	Slamtec RPLIDAR A1 Laser Ranging Sensor 360° Omnidirectional Lidar with High-Speed Visual Acquisition and Processing or equivalent	Nos	2	Laser Wavelength: 785nm; Ranging distance: 0.15m to 12m; Scan Rate : 2-10Hz; 360 omnidirectional Laser Scanning; Communication Protocol: UART USB; Sensor Type: Proximity; Typical Input Voltage: 3.3VDC/ 5VDC; Operating Current: 600mA
37.	MPU9250 GY-9250 9-AXIS 9DOF Accelerometer, Gyroscope, Digital Motion Processor Sensor Module or equivalent	Nos	10	Nine 16-bit analog-to-digital converters (ADCs) for digitizing the gyroscope, Accelerometer and Magnetometer outputs; Gyroscope full-scale range of $\pm 250$ , $\pm 500$ , $\pm 1000$ , and $\pm 2000^\circ/\text{sec}$ (dps); Accelerometer full-scale range of $\pm 2g$ , $\pm 4g$ , $\pm 8g$ , and $\pm 16g$ ; Magnetometer full-scale range of $\pm 4800\mu\text{T}$ ; I2C and SPI serial interfaces

38.	GP2Y1010AU0F Compact Optical Air Quality Dust Sensor or equivalent	Nos	<p>3</p> <p>operating voltage: 4.5 to 5.5 VDC;  operating current: max. 20 mA;  light emitting element: LED;  minimum detectable dust size: 0.5 um;  dust density range: up to 580 ug/m<sup>3</sup>;  output interface: analog;  output under zero dust conditions: 0 to 1.5 VDC;  sensitivity: 0.5 (+/- 0.15 VDC) per 100 ug/m<sup>3</sup> change;  accuracy: +/- 30 %;  Size: 46mm × 30mm × 17.6mm</p>
39.	DHT22 Temperature Humidity Sensor Module or equivalent	Nos	<p>5</p> <p>Operating Voltage: 3.5V to 5.5V;  Operating current: 0.3mA (measuring) 60uA (standby);  Output: Serial data;  Temperature Range: -40°C to 80°C;  Humidity Range: 0% to 100%;  Resolution: Temperature and Humidity both are 16-bit;  Accuracy: ±0.5°C and ±1%</p>
40.	BN-220 gps module (GNSS) or equivalent	Nos	<p>5</p> <p><b>Receiving Format :</b>  GPS, GLONASS, Galileo, BeiDou, QZSS and SBAS;  Frequency : GPS L1, GLONASS L1, BeiDou B1, SBAS L1, Galileo E1;  Channels : 72 Searching Channel;</p> <p><b>Sensitivity</b>  Tracking : -167dBm;  Reacquisition : -160dBm;  Cold start : -148dBm;  Hot start : -156dBm;</p> <p><b>Accuracy</b>  Position Horizontal : 2.0 m CEP 2D;  RMS SBAS Enable (Typical Open Sky);  Velocity : 0.1m/sec 95% (SA off);  Timing : 1us synchronized to GPS time;</p> <p><b>Acquisition Time</b>  Cold Start : 26s  Warm start : 25s  Hot start : 1s</p> <p><b>Data and Update Rate</b>  Support Rate : 4800bps to 921600bps, Default 9600bps  Data Level : TTL or RS-232, Default TTL level  Data Protocol : NMEA-0183, Default NMEA-0183  Single GNSS : 1Hz-18Hz</p>



				Concurrent GNSS : 1Hz-10Hz,Default 1Hz
41.	GY-BME280-5V Temperature and Humidity Sensor Atmospheric Pressure Sensor Module or equivalent	Nos	5	Pressure: 300...1100 hPa Temperature: -40...85°C Humidity sensor Response time : 1s Accuracy tolerance: ±3% relative humidity Hysteresis: ≤2% relative humidity
42.	300W 20A DC-DC Adjustable Buck Converter Step Down Module or equivalent	Nos	10	300W 20A DC-DC Adjustable Buck Converter
43.	RECOM Isolated DC/DC Converter RPP20-2405SW or equivalent	Nos	10	Isolated DC/DC Converter 24V dc input; 5Vdc output
44.	USB to RS485 / USB 2.0 to RS 485 Serial Converter Adapter or equivalent	Nos	5	USB to RS485 / USB 2.0 to RS 485 Serial Converter Adapter
45.	CP2102 USB 2.0 to TTL UART 6PIN Serial Converter or equivalent	Nos	5	USB 2.0 to TTL UART 6PIN Serial Converter
46.	FT232RL 3.3V 5.5V FTDI USB to TTL Serial Adapter Module or equivalent	Nos	5	3.3V 5.5V FTDI USB to TTL Serial Adapter Module
47.	MAX3232 RS232 to TTL Converter Module DB9 Connector 5V Serial Module or equivalent		5	RS232 to TTL Converter Module
48.	RS485 to TTL UART Converter Module or equivalent		5	RS485 to TTL UART Converter
49.	PCF8591 ADC & DAC Analog to Digital and Digital to Analog Converter Module or equivalent		5	ADC & DAC single chip module
50.	ADS1115 Analog to Digital Converter ADC 4 channel with Pro Gain Amplifier or equivalent		10	Analog to Digital Converter ADC 4 channel 16 bit
51.	TP4056 C Type USB Port 1A 18650 Lithium Battery Charging Board Charger Module or equivalent		20	TP4056 C Type USB Port 1A
52.	4K 1080P Full HD HDMI to USB 2.0 Video Capture Card or equivalent		3	HDMI Video Capture Card USB 2.0 4K 1080P
53.	AHD TVI CVI CVBS To HDMI Converter 1080P Analog HD Signal To HDMI Conversion or equivalent		3	AHD TVI CVI CVBS To HDMI Converter 1080P Analog HD Signal To HDMI Conversion

**Name of the Bidder:**

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*\*[complete name of the Bidder]*

**Name and signatures**

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*\*\*[complete name of the person authorized to sign the Bid on behalf of the Bidder]*

**Date:**

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**EVALUATION CRITERIA**

1. **Evaluation criteria.** Past performance and Technical Evaluation will be used as qualification criteria with 50% passing marks in each category. Best evaluated bidder will be ascertained as per Quality and Cost Based Selection of PPRA Rules.

Category	Marks	% Weightage	Remarks
Technical Evaluation as per para 2 and 3	100	40%	<ul style="list-style-type: none"> <li>50% Marks to qualify in each category</li> </ul>
Financial Proposal	100	60%	<ul style="list-style-type: none"> <li>100 Marks will be awarded to lowest bidder. Others will be evaluated relatively</li> </ul>

2. **Marks Distribution / Qualification Matrix.**

Ser	Description	Maximum Points	Passing Marks
<b>a. Performance Evaluation</b>			
(1)	Financial Soundness	20	10
(2)	Past Experience / Record	20	10
(3)	Past Performance	10	05
<b>Sub Total</b>		<b>50</b>	<b>25</b>
<b>b. Technical Evaluation</b>			
(1)	Technical Evaluation Parameters	50	25
<b>Total</b>		<b>100</b>	<b>50</b>

3. Details of criteria for each of the above categories are as under

- a. **Financial Soundness.** Following parameters will be used in qualification criteria: -

Ser	Description	Max Points	Explanation for Marks Obtained	Remarks
(1)	Annual turnover of last Three Financial Years	10	<ul style="list-style-type: none"> <li>05 Marks for Turnover of Rs. 2 Million and above.</li> <li>Others will be graded relatively</li> </ul>	Third Party generated verifiable audit reports for last three financial years to be provided for minimum of upto Rs 5 Mn (in FOR Case) Else Income Tax returns for last 3 x financial years, fully verified by ITO of the circle.
(2)	Working Capital of last three years	10	<ul style="list-style-type: none"> <li>10 Marks for working capital of Rs. 5 Million or above.</li> <li>Others will be graded relatively</li> </ul>	
<b>Total</b>		<b>20</b>		

- b. **Past Experience / Past Record**

Ser	Description	Max Points	Explanation for Marks Obtained
(1)	Projects of similar nature and complexity of last Three / five years. FOR – 3 year	10	3 years (1.3 mark per contract; Max 3.3 marks per year)
(2)	Status of enlistment with Govt Org (Attested copies of Registration certificate to be enclosed)	10	Full marks will be given on provision of at least 1 x Registration certificate Non-Registered firms will be awarded 2.5 gratis Marks
<b>Total</b>		<b>20</b>	

**FINANCIAL PROPOSAL**  
**SCHEDULE OF PRICE – SUMMARY**

<b>Ser</b>	<b>Description of Stores and Specification Services/ Documents</b>	<b>A/U</b>	<b>Qty</b>	<b>Price Per Unit (Rs)</b>	<b>Total Price (Rs)</b>

Inclusive/Exclusive:

Sales Tax @ \_\_\_\_\_ %  
Surcharge @ \_\_\_\_\_ %  
Stamp Duty @ 25 Paise on Rs. 100  
Any Other Tax: \_\_\_\_\_  
Total Price \_\_\_\_\_

**CERTIFICATE OF ELIGIBILITY / NON-BLACKLISTING CERTIFICATE**

"It is certified that our firm is neither defaulter / blacklisted by any Government Organization directly or indirectly nor any investigation / interrogation was ever carried out against us by any Pakistani or overseas intelligence/investigation agency. It is further certified that our firm is fully eligible as per the DPP&I-35 / HIT to offer bid in this IT."

Name of MD \_\_\_\_\_

CNIC or Passport No. \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

Details of Contracts

Sr. No.	Contract No	Value	Organization	Store delivered (within DP /pending beyond DP)	Value of accepted items in first go	Provision of Bank Guarantee within timeline of contract (Yes/No)	Risk and expense against the firm (if any)	Response to the Organization
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

**Note.** It is certified that above mentioned data is correct and verified from concerned procuring agency / organization. In case any information found wrong / hidden, firm may be disqualified and suitable punitive action may also be taken including confiscation of bid security money.