



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान तिरुपति

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH TIRUPATI

Transit campus: C/o Sree Rama Engineering College Campus, Rami Reddy Nagar,
Karakambadi Road, Mangalam (B.O), Tirupati - 517 507

Website: www.iisertirupati.ac.in

Limited Tender No: IISERT/PUR/0105/20

Date: 11th June 2020

Indian Institute of Science Education and Research, Tirupati invites online bid (e-tender) in **Single bid** (Technical + Financial) system for the following.

Item Description	Quantity
Supply, Installation and Commissioning of Automatic Weather Station including rain gauge, radiation sensors and soil parameter sensors along with data logger, software and Accessories	01 No

The Tender Document can be downloaded from Central Public Procurement (CPP) Portal <https://eprocure.gov.in/eprocure/app> and bid is to be submitted online only through the E-procurement portal up to the last date and time of submission of tender.

Critical Dates of Tender

Sr.No	Particulars	Date	Time
1	Date of Online Publication/Download of Tender	11/06/2020	17:00 Hrs.
2	Bid Submission Start Date	11/06/2020	18:30 Hrs.
3	Bid Submission Close Date	25/06/2020	15:00 Hrs.
4	Opening of Bids	26/06/2020	15:30 Hrs.

No manual bids will be accepted. All quotation should be submitted in the E-procurement portal only

Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 0120-4200462, 0120-4001002, 91-8826246593.

INDEX

Chapter No.	Page No
CHAPTER 1 : INVITATION FOR BIDS	03
CHAPTER 2 : INSTRUCTIONS TO BIDDERS	06
CHAPTER 3 : CONDITIONS OF CONTRACT	09
CHAPTER 4 : SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED TECHNICAL DETAILS	14
CHAPTER 5 : PRICE SCHEDULE	16
CHAPTER 6 : CHECKLIST	19

CHAPTER-1. INVITATION FOR BIDS

1. Indian Institute of Science Education and Research, Tirupati invites online bids (e-tender) in single bids systems Supply, Installation and Commissioning of Automatic Weather Station including rain gauge, radiation sensors and soil parameter sensors along with data logger, software and Accessories. The Technical specifications are given in **Chapter 4: Schedule of Specifications**.
2. **Contact for information:**
Technical & Commercial contact:
Assistant Registrar (Admin & Purchase)
Indian Institute of Science Education and Research (IISER), Tirupati
Transit campus: C/o Sree Rama Engineering College Campus, Rami Reddy Nagar,
Karakambadi Road, Mangalam (B.O), Tirupati - 517 507
Email: purchase@iisertirupati.ac.in Ph: 0877 2500208
Website: www.iiserTirupati.ac.in
3. Supply means: "Supply, Installation & Commissioning".
4. **Submission of Bid:**

Bid Submission Start Date: 11/06/2020 from 18:30Hrs.
Bid Submission Close Date: 25/06/2020 up to 15:00Hrs.
Opening of Bids: 26/06/2020 at 15:30 pm
5. No manual bids will be accepted. All quotation should be submitted in the E-procurement portal only
6. The Offer should comprise of the following:
 - (i) The offer should be complete to indicate that all products and services asked for are quoted.
 - (ii) The purpose of certain specific conditions is to get or procure best Equipment/service etc. for IISER, Tirupati. The decision of Purchase Committee shall be the guiding factor for selection of the responsive firms.
 - (iii) Duly filled in Bid with proper seal and signature on each page of the bid should be submitted online and the same should accompany with complete specifications, Manufacturer's name, address and relevant Technical Literature / Brochures with warranty Terms.
 - (iv) Agreements / Purchase Orders / Completion certificates if any, for similar works in other Institutes, the details of such supplies for the preceding three years should be given together with the prices eventually or finally paid.
 - (v) Copy of GST No. and PAN No. allotted by the concerned authorities. If registered with the National Small Industries Corporation, the registration

number, purpose of registration and the validity period of registration and a copy of DGS&D registration wherever it is applicable should also be provided in bid.

- (vi) The prices should be shown against each item for the purpose of Insurance claims / replacements if any.
- (vii) Compliance sheet with any deviation with reference to the terms and specifications.
- (viii) The item should be supplied with manuals and the manuals including technical drawings should be complete in all respects to operate without any problem.
- (ix) Duly filled in checklist as per Chapter 6 should be submitted along with tender.
- (x) The Bidders are requested to quote for Educational Institutional Price for Equipment's, since we are eligible for the same

Note : IISER , Tirupati is requesting only Single Bid (Technical Specification and Price together) the Bidders must be extremely careful about the requirement mentioned in the tender and submit their quotes accordingly. Any shortfalls found during the tender evaluation such bids will be rejected without seeking any further clarifications from the bidders. Since it is a single bid any further clarification will cause/draw objections from other bidders.

All the bidders should quote their offer as per "Chapter - 5 Price Schedule" for uniformity.

7. Purchase Committee

The Purchase Committee will evaluate the tenders and may also nominate some external/expert members, in the interest of IISER, Tirupati.

8. Terms of the Purchase Committee

- (i) A committee duly constituted by the Director, IISER, Tirupati will go through the bids and recommend firms that are meeting all the specifications of the Tender. The recommendation/decision of the purchase committee is the final and binding on all the parties.
- (ii) Purchase Committee will proceed through Bids as defined in **Chapter IV (Schedule of requirements, specifications and allied technical details)**, in order to determine whether they are substantially responsive to the requirements set forth in the tender. In order to reach such a determination, IISER, Tirupati will examine the information supplied by the Bidders, and shall evaluate the same as per the specifications mentioned in this tender.

- (ii) The purchase committee may formulate evaluation criteria in addition to the specifications and requirements indicated in the tender, in the interest of IISER, Tirupati.

9. Commercial Bid Evaluation:

Based on results of the Technical evaluation IISER, Tirupati evaluates the Commercial Bid of those Bidders who qualify in the Technical evaluation.

- a. IISER Tirupati shall correct arithmetical errors on the following basis:
- i. If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected.
 - ii. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
 - iii. If there is a discrepancy between words & figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (i) and (ii) above.
- b. Selling exchange rate/equivalent to Indian currency will be as on the date of bid opening in the case of single bidding and the rate on the date of opening of the priced bids in the case of two-part bidding.
- c. The bids shall be evaluated on the basis of final landing cost as per format given in Price Schedule in case of import / indigenous items.**
- d. The comparison between the indigenous and the foreign offers shall be made on FOR destination basis and CIF/CIP basis respectively. However the CIF/CIP prices quoted by any foreign bidders shall be loaded further as under :
- Towards customs duty and other statutory levies-as per applicable rates.
 - Towards custom clearance, inland transportation etc. – 2% of the CIF/CIP value.
- e. Where the price quoted on FOB/FCA and CIF/CIP basis are the same, the Contract would be made on CIF/CIP basis only.
- f. The Vague terms like “packing, forwarding, transportation..... Etc. extra” without mentioning the specific amount/percentage of these charges will not be accepted. **Such offers shall be treated as incomplete and rejected.**
- g. After arriving at final pricing of individual offers of all the short listed firms, the lowest firm will be awarded with Contract/Purchase Order.
- h. If there are any discrepancies in price schedule and tender document please refer to the BOQ in the Central Public Procurement Portal, the BOQ item/words/conditions mentioned in BOQ prevails

10. No request for extension of due date will be considered under any circumstances.

11. No sub-contracting is allowed with regard to installation, warranty maintenance and after sales service.
12. The Director, IISER, TIRUPATI reserves the right to accept the offer in full or in parts or reject summarily or partly.
13. The relatives / near relatives of employees of the client are prohibited from participation in this bid.

The near relatives for this purpose are defined as:

- (a) Members of a Hindu Undivided Family.
- (b) Their husband or wife.
- (c) The one is related to the other in the manner as father, mother, son(s), son's wife (daughter-in-law), daughter(s) & daughter's husband (son-in-law), brother(s) & brother's wife, sister(s) and sister's husband (brother-in-law).

14. Unloading: In Case of Equipment unloading at IISER Tirupati will be under Supplier scope

CHAPTER-2 : INSTRUCTIONS TO BIDDERS

Delivery Period / Timeliness

The deliveries & installation must be completed **within 30 days**, after placement of purchase order. The time is the essence of the contract. It is mandatory for the bidders who respond to this bid to meet these expectations, as are tightly linked to IISER, TIRUPATI's plans of completing the project within the time frame.

Locations for the Supply / Services:

Supply, Installation and Commissioning of Automatic Weather Station including rain gauge, radiation sensors and soil parameter sensors along with data logger, software and Accessories covered by this document is required to be done at IISER, Tirupati.

1. Eligible Bidders:

- 1.1 IISER, TIRUPATI reserves the right to award / reject the order to any particular bidder without assigning any reason thereof.
- 1.2 Bidders should not be under a declaration of ineligibility for corrupt and fraudulent practices.
- 1.3 Bidders should QUOTE strictly in accordance with the requirements.
- 1.4 Bidders shall adhere to the procedure and processes laid down in this document and shall follow fair and ethical practices of trade.
- 1.5 Based on the list of installations provided by the bidder, IISER, TIRUPATI will have its option to obtain details of the installations, their performance, after sales services etc. for evaluation of the tender, directly from the concerned organizations
- 1.6 Firms which have already supplied to IISER, TIRUPATI and have not completed required installation/after sales service/warranty replacements etc. such firms offers will not be considered for further evaluation and no enquiries thereafter will be entertained.
- 1.7 Conditional Offers will not be considered.
- 1.8 IISER, TIRUPATI will not provide any accommodation/transportation for the engineers/ representatives for attending installation. It is the absolute responsibility of the supplier to make their own arrangements.
- 1.9 The authorized person who signs the tender is required to indicate his e-mail ID, mobile No. and also general e-mail ID for easy and faster communication.

2. Amendment of Bidding Documents

At any time prior to the deadline for submission of bids, IISER, TIRUPATI may, for any reason, whether on its own initiative or in response to the clarification request by a prospective bidder may modify the bid document.

PREPARATION OF BIDS

3. Period of validity of bids

- 3.1. Bids shall be valid for a period of **90 days** from the date of opening the bid.
- 3.2. IISER, TIRUPATI may ask for the bidder's consent to extend the period of validity. Such request and the response shall be made in writing only. A bidder agreeing to the request for extension will not be permitted to modify his bid.

AWARD OF CONTRACT

4. Award Criteria

- 4.1 IISER, TIRUPATI shall award the contract to the technically eligible lowest bidder.
- 4.2 If more than one bidder happens to quote the same lowest price, IISER, TIRUPATI reserves the right to award the contract to more than one bidder or any bidder.

5. Purchaser's Right to vary Quantities at the time of Award

IISER, TIRUPATI reserves the right at the time of award of Contract to increase or decrease the quantity of items specified in the Schedule of Requirements without any change in price or other terms and conditions.

6. Corrupt or Fraudulent Practices

IISER, TIRUPATI requires that the bidders who wish to bid for this project have highest standards of ethics.

- 6.1. IISER, TIRUPATI will reject a bid if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract.
- 6.2. IISER, TIRUPATI may declare a vendor ineligible, either indefinitely or for a stated duration, to be awarded a contract if it at any time determines that the vendor has engaged in corrupt and fraudulent practices during the execution of contract.

7. Interpretation of the clauses in the Tender Document / Contract Document

In case of any ambiguity / dispute in the interpretation of any of the clauses in this Tender Document, **Director, IISER, TIRUPATI's interpretation of the clauses shall be final and binding on all parties**

CHAPTER - 3 : CONDITIONS OF CONTRACT

1. Price

- 1.1. The price quoted shall be considered firm and no price escalation will be permitted.
- 1.2. The price criteria should be on F.O.R., IISER TIRUPATI. Govt. Levies like GST. if any, shall be paid at actual rates applicable on the date of delivery. Rates should be quoted accordingly giving the basic price, GST, if any.
- 1.3. The rate of GST applicable to IISER Tirupati is 5% for the items procured for Research purpose as per Notification No. 45/2017-Central Tax (Rate) New Delhi, 14th November, 2017 and Notification No. 47/2017-Integrated Tax (Rate) New Delhi, 14th November, 2017

A. For Goods manufactured in India:

(i) The price of the goods must be as per the BOQ.

(ii) In case of BOQ requesting for prices without GST. GST will be paid as per the norms.

(iii) The price mentioned in BOQ must be inclusive of transportation, insurance, loading and unloading and any other local service required for delivering the goods for the desired destination as decided by IISER Tirupati.

(iv) The installation, commissioning and training charges (If any) must be mentioned as per the BOQ (if requested separately in BoQ) else the price quoted will be taken as inclusive of installation, commissioning and training.

(v) The institute will not be responsible in case of the bidders failing to include any of the above mentioned prices in their bid. The price mentioned in the BOQ will be final and the bidder has to comply with that, if awarded the tender.

(vi) UNLOADING OF THE GOODS AT IISER TIRUPATI IS STRICTLY IN THE SCOPE OF THE BIDDER. NO MANPOWER WILL BE PROVIDED BY IISER TIRUPATI.

B. For Goods manufactured abroad:

(i) The mode of shipment must be clearly mention in the BOQ via Ex-works, FCA, FOB, CIP, DDP etc.

(ii) Courier mode of shipments will not be acceptable. IISER Tirupati will not pay the charges towards clearance goods arriving on courier mode.

(iii) The mode of shipment once mentioned cannot be changes without the Consent of IISER Tirupati.

(iv) Any financial implication leading to change of mode of shipment or any deviation from the bid submitted shall be borne by the bidder.

(v) The charges towards insurance and transportation of the goods and agency commission must be clearly mentioned.

(vi) The installation, commissioning and training charges including any incidental services, if any.

(vii) The installation, commissioning and training charges (If any) must be mentioned as per the BOQ (if requested separately in BOQ) else the price quoted will be taken as inclusive of installation, commissioning and training.

(viii) The institute will not be responsible in case of the bidders failing to include any of the above mentioned prices in their bid. The price mentioned in the BOQ will be final and the bidder has to comply with that, if awarded the tender.

(ix) UNLOADING OF THE GOODS AT IISER TIRUPATI IS STRICTLY IN THE SCOPE OF THE BIDDER. NO MANPOWER WILL BE PROVIDED BY IISER TIRUPATI

C. We are exempted from payment of Customs Duty under notification No.51/96 dated 23.07.1996. Customs Duty, if any, should be shown separately. No other charges than those mentioned clearly in the quotation will be paid.

D. Bidders may also bid for High Sea sales

2. Services

2.1. Details of services rendered as well as after-sales services offered by you are to be made clear in the tender.

3. Delivery Schedule

3.1. The bidders may please note that the delivery of the system should be strictly **within 30 days from the date of placement of firm order.**

3.2. Goods should not be dispatched until the Vendor receives a firm order.

4. Warranty / Support:

- a The items covered by the schedule of requirement shall carry minimum Three years of comprehensive warranty from the date of acceptance of the equipment by IISER, TIRUPATI. Warranty shall include free maintenance of the whole equipment supplied including free replacement of parts. The defects, if any, shall be attended to on immediate basis but in no case any defect should prolong for more than 24 hours. The comprehensive warranty includes onsite warranty with parts.

- b. The defects, if any, during the guarantee/warranty period are to be rectified free of charge by arranging free replacement wherever necessary. This includes cost, insurance, freight, custom duty, octroi, local taxes if any should be borne by the beneficiary or his agent. A clear confirmation should be given for this item.
- c. The warranty on the associated software should cover providing of upgraded version/s, if any, released during the warranty period free of cost. The turnaround time for resolving of any issue in case of indigenous bidders 15 days and in case of import is 30 days from the date of intimation from institute via e-mail any delay in resolving the issue will lead to forfeiture of their PBG. The delay in resolving the issue beyond the stipulated period mentioned above shall lead to extension of warranty period.
- d. The BIDDER shall assure the supply of spare parts after warranty is over for maintenance of the equipment supplied if and when required for a period of 10 years from the date of supply of equipment on payment on approved price list basis.
- e. The equipment must be supported by a Service Centre in India manned by the principal vendor's technical support engineers. The support through this Centre must be available 24 hours in a day, seven days a week and 365 days a year. Also it should be possible to contact the Principal's vendor support Centre on a toll free number/web/mail.
- f. An undertaking from the manufacturer is required in this regard stating that they would facilitate the BIDDER on regular basis with technology / product updates & extend support for the warranty as well.
- g. The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc.
- h. The principal vendor must have a local logistics support by maintaining a local spares depot in the country of deployment of the equipment. This is to ensure immediate delivery of spares parts from Principal Vendor of equipment to its channel partner/system integrator.
- i. Details of onsite warranty, agency who shall maintain during warranty and undertake Annual Maintenance Contract/Comprehensive Service Maintenance Contract beyond warranty shall be given in the offer. In case of foreign quote, the Indian Agent who shall maintain during warranty and AMC beyond warranty shall be given in the Technical Offer.
- j. COMMENCEMENT OF WARRANTY PERIOD:**

The warranty period of an item shall commence from the date of successful installation, commissioning and demonstration at IISER Tirupati. The warranty period and validity of Performance Guarantee shall be extended for the period of delay in satisfactory installation and delay in warranty services.

5. Indemnity

The vendor shall indemnify, protect and save IISER, TIRUPATI against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipment supplied by him.

6. Freight & Insurance

The equipment's to be supplied will be insured by the vendor against all risks of Loss or damage from the date of shipment till such time it is delivered at IISER, TIRUPATI site.

7. Payment

7.1. No advance payments are allowed under any circumstances.

7.2. Payment will be made directly to the suppliers by wire transfer for 100% of the Invoice value after receipt of the goods in our Stores, tested /inspected and found satisfactory with regard to quality, quantity, and specifications ordered for and after satisfying that the terms and conditions of supply have been fulfilled.

7.3. By Irrevocable Letter of Credit for 100% of the Invoice value. However, 90% of the Invoice value will be paid on presentation of original shipping documents to our bankers and balance 10% will be paid after receipt of material and acceptance of the goods at IISER Tirupati.

8. Penalty for delayed Services / LD

8.1. As time is the essence of the contract, Delivery period mentioned in the Purchase Order should be strictly adhered to. Otherwise the IISER will forfeit EMD/SD and also LD clause will be applicable /enforced.

8.2. If the supplier fails to Supply, Install as per specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of 1% of order value per every week of delay subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the supplier.

8.3. IISER, TIRUPATI reserves the right to cancel the order in case the delay is more than 10 weeks. Penalties, if any, will be deducted from the Security Deposit.

9. Jurisdiction

The disputes, legal matters, court matters, if any, shall be subject to Tirupati Jurisdiction only.

10. Discrepancies

If there are any discrepancies in price schedule and tender document please refer to the BOQ in the Central Public Procurement Portal, the BOQ item/words/conditions mentioned in BOQ prevails.

11. Comparisons of Bids

The Purchaser shall compare all substantially responsive bids to determine the lowest valued bid.

This Institute is following and abide with the Public Procurement (Preference to Make in India), Order 2017, DIPP, MoCI Order No. P-45021/2/2017-B.E.II dated 15th June 2017 and subsequent amendments to the order. Accordingly, preference will be given to the Make in India products while evaluating the bids, however, it is the sole responsibility of the bidder(s) to specify the product quoted by them is of Make in India product along with respective documentary evidence as stipulated in the aforesaid order and the quality as mentioned in the tender in the technical bid itself.

12. Force Majeure

IISER, TIRUPATI may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that the delay, in performance or other failure to perform its obligations under the Contract, is the result of a Force Majeure.

Force Majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, storms etc.) acts of states, the direct and indirect consequences of wars (declared or undeclared) hostilities, national emergencies, civil commotion and strikes at successful Bidder's premises.

13. Arbitration

All disputes of any kind arising out of supply, commissioning, acceptance, warranty maintenance etc. shall be referred by either party (IISER, TIRUPATI or the bidder) after issuance of 30 days notice in writing to the other party clearly mentioning the nature of dispute to a single arbitrator acceptable to both the parties. The venue for arbitration shall be IISER, TIRUPATI India. The jurisdiction of the courts shall be Tirupati, Andhra Pradesh, India.

Assistant Registrar (Admin & Purchase)

CHAPTER 4

TECHNICAL SPECIFICATION OF WEATHER MONITORING STATION

GENERAL SPECIFICATIONS

1. The broad scope of supply is to deliver an advanced Weather monitoring Station (AWS) at IISER Tirupati. The System will consist of “Data Logger and Meteorological Sensors”.
2. The system will constitute of fully developed and established hardware for Data Logger, 12V rechargeable Lead Acid Battery, Solar Panel, Charge Controller, Meteorological Sensors and Accessories.
3. The datalogger should be programmable by higher-level language for flexible R&D requirements. The fully integrated system will only be accepted.
4. The sensors must comply with the type, range, accuracy, resolution and operating temperature conditions of the specifications.
5. The datalogger, sensors and solar panel will be mounted on a 4m tower, which should cater for fitments of assemblies for sensors, datalogger, solar panel and other accessories.
6. Different sensors as mentioned in spec should be provided with complete accessories i.e. connectors, enough cables and mounting fixtures. The integration of the sensors with the datalogger will be ensured by the firm.
7. Software, if any, for processing the data collected through Mini USB Port /Memory Card/ RS 232 Port / Ethernet Port
8. Training should be provided to the IISER Tirupati Officials on the operation and maintenance of the station.
9. Installation and commissioning should be done by the party on their own expenditure.
10. Vendor should have experienced in installing AWS at least at two government institutes/organizations.
11. All data acquisition and data analysis softwares to be given separately also.
12. Calibration report to be submitted along with the instruments.
13. AWS should be properly surge protected.

DATALOGGER SPECIFICATION

1. Data Sampling Rate : 1000 Hz
2. Analog Input Channels : 16 Nos
3. Analog Input Range : $\pm 5000\text{mV}$, $\pm 1000\text{mV}$, $\pm 200\text{mV}$
4. Analog Resolution : 0.05 Micro Voltage
5. Analog Input voltage Accuracy : $\pm 0.04\%$ of reading + offset between 0° to 40°C or better
 $\pm 0.06\%$ of reading + offset between 40° to 70°C or better
6. Switch Closure Inputs: Minimum Switch Closed Time: 5 ms,
Minimum Switch Open Time: 6 ms,
Maximum Bounce Time: 1 ms
7. Digital : At least eight ports configurable for digital input and output
8. Resistive Ground. At least two resistance-to-ground inputs that can be used for non-isolated 0-20 mA and 4-20 mA current loop measurements or for terminating the ground refence of an RS-485 serial connection.
9. Analog to Digital Conversion Bits : 24 Bit or Better

10. Analog to Digital Conversion Accuracy +/-1 LSB
11. User selectable average time of 1 min/10minutes, independently for each channel.
12. Minimum Parameters to be recorded for Each Channel : Average , Standard Deviation , Minimum , Maximum , Wind Vector.
13. The datalogger should have watchdog timer to reset the system and restore the previous set-up case of microprocessor resets and power glitch.
14. The normal time clock of the system should be derived from TCXO with accuracy of 3.0 ppm/yr.
15. In addition the system should also have battery backed real time clock so that the time is updated even during power failure.
16. The accuracy of this clock should be better than 3 minutes in six-months periods.
17. Communication Interface : USB: Micro-B, RJ-45: RS-232, RJ-45: Ethernet
18. Internet Protocols : Ethernet, PPP, IP, RNDIS, ICMP/Ping, Auto-IP(APIPA), IPv4, IPv6, UDP, TCP, TLS, DNS, SLAAC, SNMPv2, NTP, Telnet, HTTP(S), FTP(S), SMTP/TLS, POP3/TLS
19. Communication Protocols : SDI-12, Modbus, RTU/ASCII/TCP, DNP3, NTCIP, NMEA 0183, I2C, SPI, Custom user definable over serial, TCP, UDP.
20. Communication port (for configuration) : Ethernet port/Multimedia card/USB port
21. Real Time Data Acquisition Mode : Through Local Intranet and RS485 Mode
22. Data Storage: Internal memory minimum of 1year data at 1 minute interval.
23. Data Storage Expansion: Removable micro SD Flash memory; up to 16 GB
24. Data File Formats: CSV, XML, JSON, binary, encrypted, custom user definable
25. Data Encryption : Required (Both in server and datalogger side)
26. Power Requirements: Typical Current Drain in Sleep Mode: ~2 mA or better 1 Hz Scan (8 diff. meas. 60 Hz rej., 2 pulse meas.): 3 mA. 12 V switched DC with maximum current supplying capacity of 1.0A during measurement period for powering up the sensors. Short circuit and over load protection.
27. Temperature Range: -30 to +60° C or better
28. Operating Humidity Range : 0 to 100% relative humidity non-condensing
29. Voltage Input Protection: Reverse polarity protected; overvoltage protected up to 30 Vdc.

SPECIFICATIONS FOR METEOROLOGICAL SENSORS:

1. Air Temperature Sensor and Relative Humidity Sensor with Radiation shield

Air Temperature Sensor Details

- Range: -20°C to + 55°C or better
- Accuracy: +/- 0.5°C or better
- Resolution: 0.01 °C or better
- Output: Compatible with data logger

Relative Humidity Sensor Details

- Range: 0 to 100% RH
- Output Compatible with data logger

- Accuracy: +/- 4% or better
- Resolution: 0.01% or better
- Operating Temp Range: -40°C to +60°C

A naturally aspirated radiation shield should be provided with the sensor.

2. Rainfall Sensor

- Sensor type: Tipping bucket
- Temperature: 0° to +50°C or better
- Resolution: 1 tip or better
- Rainfall per tip: 0.1 mm or better
- Accuracy: ±1% at 50 mm/h or better

3. Four Component Net Radiation Sensor:

Four-component net radiometer for accurate and reliable measurements of incoming and reflected solar radiation,

- Number of signal outputs: 4 - incoming and reflected short-wave radiation downward and upward long-wave radiation.
- Optional ventilated with heater
- Single-body sensor
- Internal temperature sensors: 10 K thermistor and Pt-100
- Response time (95 %): < 18 s or better
- Non-linearity (over full range): < 1 %
- Temperature dependence of sensitivity: < 5 % from -10 °C to +40 °C or better
- Sensitivity: 5 to 20 $\mu\text{V}/\text{W}/\text{m}^2$ or better
- Operating temperature: -40 °C to +80°C or better
- Spectral range (50 % points): 305 to 2800 nm short-wave, 4.5 to 42 μm long-wave
- Field of view: 180 ° short-wave upper sensor 170 °, short-wave lower sensor 175 ° long- wave upper sensor 150 ° long-wave lower sensor
- Mounting rod: Screw-in, 350 mm long x 16 mm along with necessary mounting brackets Standard cable: 10 m cable required to connect the sensor to a data logger

4. Soil Heat Flux Sensor (2 Depths)

Soil heat flux sensor for measurement of soil heat flux should be provided with 10m cable with below specification.

- Sensitivity (nominal): 50 $\mu\text{V}/\text{Wm}^2$ or better
- Resistance (nominal): 2 ohms;
- Temperature range: -30 to +70 °C
- Expected accuracy: - 15% to 5% in most common soils or better

5. Soil Moisture and Soil Temperature Profile Sensor (6 Depths)

- Sensing element at 5cm, 10cm, 20cm, 30cm, 40cm, 50cm,
- Water Content Accuracy: ±1.5% or better typical with most soils
- Relative Dielectric Permittivity:
 - Range: 1 to 80
 - Accuracy: ±1 permittivity unit (between 4 and 42 permittivity)

- Electrical Conductivity :
 - Range: 0 to 10 dS/m
 - Accuracy: $\pm 5\%$ or better
- Soil Temperature:
 - Accuracy: $\pm 0.15^{\circ}\text{C}$ (between -30° and $+40^{\circ}\text{C}$) or better
- Cable Length : 10m

Soil Temperature Specifications:

- Measurement Range: -40° to $+70^{\circ}\text{C}$ or better
- Accuracy: $\pm 0.5^{\circ}\text{C}$ for probe body buried in soil or better
- Precision: $\pm 0.02^{\circ}\text{C}$ or better

Volumetric Water Content Specifications:

- Range: 0% to 100%
- Accuracy: $\pm 3\%$ typical in mineral soils, where solution EC ≤ 10 dS/m or better
- Precision 3 : $< 0.05\%$

6. Wind Speed and Direction Sensor

Wind Speed

- Type: Propeller with alpine version
- Range: 0 to 100 m/s
- Accuracy: ± 0.3 m/s or 1% of the reading or better
- Resolution: 0.1 m/s or better

Wind Direction

- Type: Potentiometer with Alpine version
- Range Mechanical: 360°
Electrical: 355° (5° open)
- Accuracy: $\pm 3^{\circ}$ or better

7. Barometric Pressure Sensor

- Range: 600 to 1100 hPa
- Accuracy: ± 2 hPa for temperature range from -40 to $+60$ Deg C or better
- Output: Compatible with data logger

BATTERY & CHARGING SYSTEM

1. Vendor will provide Sealed Maintenance Free Lead Acid Batteries along with battery enclosures.
2. A suitable in-built charge controller of capacity having over and under voltage protection should be provided in the DCP.
3. The battery backup must be at least for 1 week or better for AWS operation.
4. The combined capacity of the Solar panels should be 50Watts for 12 VDC configuration.

ENVIRONMENTAL SPECIFICATIONS

1. The Datalogger, Sensors, Cable, Connectors, Battery, Solar panel etc. should be able to operate at optimal efficiency and withstand the following environmental conditions
2. Storage Temperature: -40°C to 60°C or better
3. Operating Temperature: -40°C to 60°C or better

4. Humidity: 10% to 100%
5. The System should be hermetically sealed to avoid ingress of dust, rain and moisture.

ENCLOSURE

1. IP 65 - UV protected FRP Enclosure
2. Cable entry options: Two sealable conduit port.

MOUNTING STRUCTURE

1. Individual mountings as required for each sensor should be provided with the system.
2. A 4-Meter-high tower must be supplied, installed and commissioned.

WARRANTY, AMC AND MAINTENANCE

1. Three years warranty should be given for all components including data acquisition
2. Party has to give separate quotation for comprehensive AMC (for all components including data acquisition) for three years period after the warranty period ends
3. Yearly once calibration has to be performed at the installed location with their own expenditure and whenever the sensors are breakdown it should be rectified within a week after registering the complaint with their own expenditure.

CHAPTER-5 PRICE SCHEDULE

ALL THE BIDDERS SHOULD QUOTE THEIR OFFER IN FOLLOWING FORMAT FOR UNIFORMITY

PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD

Name of the Bidder _____

Tender No. _____

1	2	3	4	5	6		7		8		9
Sl No	Item Description	Country of origin	Qty	Units	Unit Price		Total price (4x6)		Charges for Insurance & transportation to port/ place of destination		Total Price (7+8)
					Ex-Works (named port of shipment)	FCA/FOB (named place of delivery)	Ex-Works (named port of shipment)	FCA/FOB (named place of delivery)	Ocean	Air	CIF/ CIP
1	Automatic Weather Station		01	No							

Total Bid price in _____ in words.



Signature of Bidder:

Name :

Business Address

Note: The Bidder may add rows as per requirement to include the prices of all Components/Parts, Warranties, Installation etc. whichever applicable.

- (a) Indian agents name & address_____
- (b) Installation, commissioning & training charges, if any_____
- (c) Cost of Spares _____
- (d) The Indian agent's commission shall paid in Indian Rupees only based on the Exchange Rate prevailing on the date of negotiation of documents.
- (e) The cost of optional items shall be indicated separately.



PRICE SCHEDULE FOR GOODS BEING OFFERED FROM INDIA

Name of the Bidder _____

Tender No. _____

1	2	3	4	5	6	7	8	9	10	11	12
Sl. No	Item Description	Country of Origin	Qty	Unit	Ex-Works. Ex-Warehouse, Ex-show room off the shelf price (inclusive of tax already paid)	Total price Ex-Works. Ex-Warehouse, Ex-show room off the shelf price (inclusive of tax already paid) 4x6	GST payable, if contract is awarded	Packing & forwarding up to station of dispatch, if any	Charges of inland transportation, insurance up to Institute	Installation, Commissioning & training charges, If any.	Gross Total (FOR)
1	Automatic Weather Station		01	No							

Total Bid Price _____ in words.

Signature of Bidder:

Name **:Note:**

The cost of optional items shall be indicated separately.

The bidder may add rows to include the prices of all components & warranties, installation etc. whichever applicable.

(a) Cost of spares _____ (b) Warranty if being charged include in BoQ

CHAPTER – 6 : Checklist: Eligibility Criteria for Bidders

Bidders to indicate whether the following are enclosed by striking out the non-relevant option.

(a)	Self-Attested copy of GST number as applicable	(Yes / No)
(b)	Agreements / Purchase orders / Completion certificates, if any, from the clients for whom similar supply has been made by the bidder in last three years	(Yes / No)
(c)	Compliance sheet with any deviation w.r.t. the terms	(Yes / No)
(d)	LD clause agreeable.	(Yes / No)
(e)	Acceptance of warranty period and Free replacements during warranty period	(Yes / No)
(f)	Deviation Sheet to be Attached	(Yes / No)

IMPORTANT

TENDERERS RESPONDING TO THIS ENQUIRY SHALL BE DEEMED TO BE AGREEABLE TO THE TERMS AND CONDITIONS HEREIN CONTAINED. THESE TERMS AND CONDITIONS SHALL BE BINDING ON THE SUCCESSFUL TENDERER. CONDITIONAL TENDERS ARE LIABLE TO BE REJECTED. IISER TIRUPATI WILL PROCESS THE TENDER AS PER IISER TIRUPATI STANDARD PROCEDURES. THE DIRECTOR OF THE INSTITUTE RESERVES THE RIGHT TO REJECT ANY OR ALL OR PART OF TENDER WITHOUT ASSIGNING ANY REASON AND SHALL ALSO NOT BE BOUND TO ACCEPT THE LOWEST TENDER. IISER TIRUPATI WOULD NOT BE UNDER ANY OBLIGATION TO GIVE ANY CLARIFICATIONS TO THE AGENCIES WHOSE BIDS ARE REJECTED.

I agree to all terms and conditions mentioned in the tender document of the Institute

Signature of the Tenderer