

भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान तिरुपति

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH TIRUPATI

Srinivasapuram, Venkatagiri Road, Jangalapalli Village, Panguru (G.P),
Yerpedu Mandal, Tirupati District, Andhra Pradesh India - 517619.

CLARIFICATION ON TENDER NUMBER: IISERT/PUR/1115/25

ITEM DESCRIPTION- SUPPLY, INSTALLATION AND COMMISSIONING OF INDUCTIVELY COUPLED PLASMA MASS SPECTROMETER (ICP-MS).

Tender Reference Number - IISERT/PUR/1115/25 dated 16/02/2026 for Supply, Installation and Commissioning of Inductively Coupled Plasma Mass Spectrometer (ICP-MS).

Pre-Bid meeting was held on Feb 23rd, 2026 at 11.00 AM. via Google Meet and minutes of meeting is as under.

At the outset, the Purchase Team welcomed all the Members and the representative of the Prospective Bidders and briefed in general the scope of the Project and thereafter briefed the vendors on the salient features of the commercial terms and the indenting Officer to read out the clarification sought by the Prospective Bidders and replied thereto as detailed in **Annexure-II and Annexure-III**.

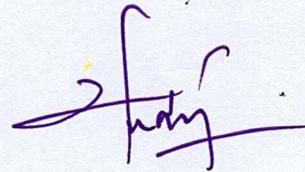
The representatives present were satisfied with the replies given, and it was informed that the corrections/additions/clarifications given, as discussed during the Pre-Bid Conference, would be hosted on the website of IISER Tirupati and all the Prospective Bidders are required to take cognizance of the proceedings of the Pre-Bid Conference before submitting their bids as stipulated in the Bidding Documents.

The other terms & conditions of the notice issued on our IISER website <http://www.iisertirupati.ac.in/> and <https://eprocure.gov.in/eprocure/app> will remain unchanged. No more correspondence in this regard will be entertained

DATE:23/02/2026

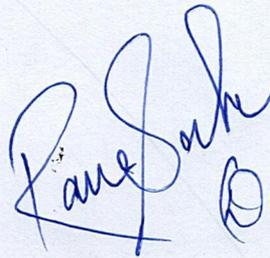
Sd/-
Deputy Registrar

Dr. Chandan Kumar B
(Director)



 (Dr. Jatin)


(Dr. Arundhan)


(Dr. Ranesh)



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ANNEXURE -II

PRE-BID CONFERENCE FOR SUPPLY, INSTALLATION AND COMMISSIONING OF INDUCTIVELY COUPLED PLASMA MASS SPECTROMETER (ICP-MS).

TECHNICAL QUERIES AND CLARIFICATION

TENDER NUMBER :- IISERT/PUR/11115/25

PRE-BID DATE:23/02/2026

S. No	Query/Clarification Sought	Clarification / Amendment
		-Separate Sheet Enclosed-

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PRE-BID CONFERENCE FOR SUPPLY, INSTALLATION AND COMMISSIONING OF INDUCTIVELY COUPLED PLASMA MASS SPECTROMETER (ICP-MS).

TECHNICAL QUERIES AND CLARIFICATION

TENDER NUMBER :- IISERT/PUR/1115/25
 PRE-BID DATE:23/02/2026

S. No	Clarification Sought	Amendment
1. Application and Basic Design		
1	The system should have three quadrupoles.	The system should have triple quadrupoles.
2	The system should be able to handle all types of samples, ranging from clean water samples, to high matrix samples, with TDS ranging up to 15% or more, with provision for direct aspiration without any need to dilute the sample. The vendor has to quote all required accessories to address high TDS.	The system should be able to handle all types of samples, ranging from clean water samples, with TDS ranging up to 25% or more, with provision for direct aspiration without any need to dilute the sample. The vendor has to quote all required accessories to address high TDS.
2. Sample Introduction		
3	Peltier cooled spray chamber with a temperature range -10 to 80 °C (in case of an organic application).	Peltier cooled spray chamber with a temperature range -10 to 20 °C or broader (in case of an organic application). System should have a dedicated MFC to connect oxygen to completely burn-off of the organic solvents.
3. Plasma		

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4	<p>RF Generator: ~27 MHz or equivalent for efficient and superior ionization when changed from aqueous samples to organic samples with automatic impedance matching.</p>	<p>RF Generator: ~27 MHz/34MHz or equivalent for efficient and superior ionization when changed from aqueous samples to organic samples with automatic impedance matching.</p>
5	<p>Plasma gas control should include at least 4 active mass flow controllers for plasma, auxiliary, makeup & carrier gases. Gases used for the collision cell & Reaction cell should be controlled by the mass flow controller. The plasma should be fully controlled through PC of horizontal, vertical, and sampling depth for maximum sensitivity and minimum polyatomic interference. Automatic system shutdown of the plasma after analysis completion is preferred.</p>	<p>Plasma gas control should include at least 4 active mass flow or electronic flow controllers for plasma, auxiliary, makeup & carrier gases. Gases used for the collision cell & Reaction cell should be controlled by the mass flow controller. The plasma should be fully controlled through PC of horizontal, vertical, and sampling depth for maximum sensitivity and minimum polyatomic interference. Automatic system shutdown of the plasma after analysis completion is preferred.</p> <p>Vendor should ensure for RF coil lifetime for at least 5 years without fail, else required to supply spare of RF generator in the standard offer. Frequency of change of plasma coil to be mentioned in the manual.</p>
<p>4. Interface, Ion Optics, and Focusing systems</p>		
6	<p>Suitable water-cooled interface under vacuum and with standard high-performance Ni and Pt sampling, skimming, and hyper skimmer cones. Lens/cons system outside the vacuum system is preferred to reduce downtime. A set of Platinum and Nickel cones should also be supplied as a standard accessory along with the required O-rings to prevent a vacuum leak.</p>	<p>Suitable water-cooled interface under vacuum. Lens/cons system outside the vacuum system is preferred to reduce downtime.</p>

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5. Collision/Reaction Cell

7	<p>The system should have all three modes of operation: Standard, collision (using inert gases such as helium), and reaction mode using 100% reactive gases like hydrogen, and ammonia for effective suppression of ore-forming polyatomic and matrix-related interferences for ore-forming elements (e.g., As, Sb, Se, Mo, W, etc) in silicate matrices. The ICP-MS must have minimum two separate channels one for helium and second for reaction gas of choice.</p>	<p>The system should have all three modes of operation: Standard, collision (using inert gases such as helium), and reaction mode using 100% reactive gases like oxygen, hydrogen or ammonia for effective suppression of polyatomic and matrix-related interferences for ore-forming elements (e.g., As, Sb, Se, Mo, W, etc) in silicate matrices. The ICP-MS must have minimum two separate channels one for helium and second for reaction gas of choice.</p>
8	<p>The system should be able to use 100% pure reactive gases and should have a separate gas line for collision and reaction gas with MFC for He, H₂, NH₃, O₂, and other gases like CH₄, C₂H₂, CH₃F, C₂H₆, etc.</p>	<p>Delete (This is repetitive)</p>
9	<p>The system should be supplied with dedicated gas channels for collision and reaction modes that will enable the use of He, O₂, H₂/CH₄, He/NH₃, and NH₃.</p>	<p>The system should be supplied with separate gas channels for collision and reaction modes that will enable the use of He, O₂, H₂/CH₄, He/NH₃, and NH₃.</p>
10	<p>The system should be able to use 100% pure reactive gases and should have a separate gas line for collision and reaction gas with MFC for He, H₂, NH₃, O₂, and other gases like CH₄, C₂H₂, CH₃F, C₂H₆, etc.</p>	<p>The system should be able to use 100% pure reactive gases and should have a separate gas line for collision and reaction gas with MFC for He, O₂, H₂/CH₄, He/NH₃, and NH₃, etc.</p>

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6. Vacuum System

A four-stage vacuum system (split flow turbo molecular pump, turbo pump, external rotary pump, turbo pump backing) or equivalent is preferred. The pumps should have a capacity of producing 1×10^{-5} Torr or less pressure in the Analyser.

A **three-stage or better** vacuum system (split flow turbo molecular pump, turbo pump, external rotary pump, turbo pump backing) or equivalent is preferred. The pumps should have a capacity of producing 1×10^{-5} Torr or less pressure in the Analyser.

The turbo molecular pump should have a minimum of 280L capacity in differential mode operation.

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7. Ion Detection System

Discrete dynode electron multiplier type detectors or equivalent or better detectors that can operate in simultaneous dual-mode (analogue and digital mode) over 10 orders or more magnitude of linear dynamic range.

Discrete dynode electron multiplier type detectors or equivalent or better detectors that can operate in simultaneous dual-mode (analogue and digital mode) over **11 orders** or more magnitude of linear dynamic range.

10 orders or more magnitude of linear dynamic range

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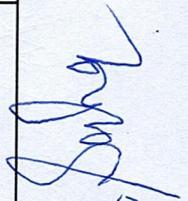
The system should have the data acquisition of at least 70,000 data points/sec.

[Optional] The system should have the data acquisition of at least 70,000 data points/sec.

8. Performance

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 - Initials "dr" in blue ink.
 - Initials "V.G." in blue ink.
 - A signature "Rave Sahar" in blue ink.

16	Be (9): ≤0.5 ppt or better In (115): ≤0.5 ppt or better Bi (209) ≤0.5 ppt or better U (238): ≤0.5 ppt or better	Be (9): ≤0.5 ppt or better In (115): ≤0.5 ppt or better Bi (209)/U(238) ≤0.5 ppt or better
9. Mass Analyzer		
17	Scan speed > 3700 amu/s	
10. Auto Sampler		
18	The system shall include an autosampler capable of performing automated analysis and shall have a minimum of 50 vial positions with ≥ 15 mL vial capacity.	The system shall include an autosampler capable of performing automated analysis and shall have a minimum of 150 vial positions with ≥ 15 mL vial capacity or better.
11. Supply of standards and essential Accessories		
19	An appropriate Windows-based computer system with a 24-inch monitor and a laser printer. A wireless keyboard and mouse are essential.	Delete (There is a separate section for PC)
20	Essential high-purity chemical reaction gases (4 Argon, 1 Helium, 1 oxygen, 1 hydrogen, Ammonia-1. Any other gas cylinders for the working of the system shall be provided in a minimum of one number.	Essential high-purity chemical reaction gases (4 Argon, 1 Helium, 1 oxygen, 1 hydrogen/Ammonia-1. Any other gas cylinders for the working of the system shall be provided in a minimum of one number.
18. Microwave Digester		
21	No of vessels: 12 vessels or more with 100 ml capacity	No of vessels: 15 vessels or more with 50 ml capacity
22	Microwave Pressure Range: up to 60 Bar	Microwave Working Pressure Range: up to 60 Bar
23	Temperature range: 220 °C	Maximum Working Temperature range: 240 °C

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ANNEXURE -III

PRE-BID CONFERENCE FOR SUPPLY, INSTALLATION AND COMMISSIONING OF INDUCTIVELY COUPLED PLASMA MASS SPECTROMETER (ICP-MS).

COMMERCIAL QUERIES AND CLARIFICATION

TENDER NUMBER :- IISERT/PUR/1115/25

PRE-BID DATE:23/02/2026

Sr. No	Query/Clarification Sought	Clarification / Amendment
1	NIL	NIL

V. S. Srinivasan
Ramesh Kumar