



**ICAR-CENTRAL INSTITUTE OF FISHERIES EDUCATION**

*(Deemed University), Indian Council of Agricultural Research*

Panch Marg, Off Yari Road, Versova, Andheri (West), Mumbai-400061

Tel. No. 022-26361446/7/8, Web Site : [www.cife.edu.in](http://www.cife.edu.in)



F. No. 49(227)/ICP-OES/NAHEP/22-23

Dated 02.02.2023

**Name of the equipment: ICP-OES  
(Inductively Coupled Plasma - Optical Emission Spectroscopy)**

**QUOTATIONS FORM HAS TO BE SUBMITTED SEPARATELY IN SEALED ENVELOPES**

To,

M/s. ....

.....

.....

**Sub: Purchase of ICP-OES - reg.**

Dear Sir,

Please find enclosed herewith the quotation form along with detailed specifications for Purchase of ICP-OES in Annexure – 1 & 2.

Kindly acknowledge the receipt of the same.

Yours faithfully

**Asstt. Administrative Officer (P)**



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### REQUEST FOR QUOTATION DOCUMENT FOR PURCHASE OF ICP-OES (Inductively Coupled Plasma - Optical Emission Spectroscopy)



UNDER  
National Agricultural Higher Education Project



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The Director, ICAR-CENTRAL INSTITUTE OF FISHERIES EDUCATION, Mumbai invites most competitive quotations in sealed envelope under National Agricultural Higher Education Project "NAHEP" for the Purchase of ICP-OES (Inductively Coupled Plasma - Optical Emission Spectroscopy) from the reputed manufacturers, their authorized distributors /dealers and other suppliers/firms dealing with the Equipment.

The quotation should reach to this office **on or before 1700 hrs. of 23.02.2023** in sealed envelope addressed to the Director, ICAR-CIFE, Panch Marg, Off Yari Road, Versova, Andheri (West), Mumbai-400061. The sealed envelopes should be sent by post/courier so as to ensure that it reaches the office within the due date and time. Alternatively, the quotations in sealed envelopes may be physically dropped in Tender Box in the office. Quotations received by Email or in open cover shall not be entertained.

### **TERMS & CONDITIONS OF QUOTATIONS:**

1. The prices shall be quoted in Indian Rupees only. Each bidder shall submit only one quotation.
2. All duties, taxes and other levies payable on the raw materials and components shall be included in the total price.
3. No advance payment or any part payment will be made. The payment is normally made within 15 days from the date of receipt of item / material in good condition as per order. The payment will be released only after full installation/ commissioning of item/ equipment satisfactorily.
4. The successful firm must have to mention Bank Account number along-with the name of bank and its IFC code in the bill at the time of supply of ordered items. The payment will be made through RTGS only.
5. Quotation not found according to specifications will not be considered. The manufacturer / Dealer should quote only one make and one model of equipment similar as per our specification. The firm should also submit their quotation supported by relevant printed literature.
6. Quotation shall remain valid for a period not less than 90 days after the deadline date specified for submission of quotations.
7. The rate should be on F.O.R. ICAR-CIFE, Mumbai basis. The full taxes may be charged, if applicable. The Institute will not provide any Road permit form.





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8. Firm should have to attach EMD of value 2.5% of the quoted amount of the equipment. None payment of EMD of requisite value will render the bill as rejected. However, firms having NSIC/MSME certification are exempted from payment of EMD.
9. Upon receipt of supply order the successful bidder will have to submit 3 % of ordered value (exclusive taxes) as performance / security deposit in form of FDR / Bank Guarantee etc. issued from nationalized bank.
10. Delivery will have to be made within 30 days from the date of issue of supply order or as extended by the Institute.
11. In case of any dispute, the decision of the Director, CIFE, Mumbai shall be binding on the part of the contractor/supplier/fabricator/firm.
12. The firm will have to adhere to the warranty / guarantee on the equipment supplied and during the period any fault /shortcoming will have to be addressed immediately without any extra cost.
13. The dealer should enclose authorization certificate issued from the principal supplier / manufacturer.
14. All taxes should be mentioned clearly, if applicable, failing which, the quotation will not be considered.
15. The Director CIFE, Mumbai reserves the right to accept or reject any or all the Quotations without assigning any reason.
16. Disputes, if any, will be governed by the Mumbai jurisdiction only.

### **REQUIRED DOCUMENTS:**

1. Scan copy of PAN and GST Registration Documents.
2. NSIC/MSME certificate, if any. Else EMD of requisite value in favour of **ICAR Unit CIFE** payable at Mumbai shall have to be submitted along with the Bid.
3. Registration/Corporation certificate of the firm.
4. Copy of RFQ Signed by Firm with all annexures.
5. Original Manufacturer Certificate / Authorized Distributor certificate from the manufacturer is required.
6. Bank account details of the firm in which the payment has to be made after satisfactory supply and installation.

**Asstt. Administrative Officer (P)**



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### Annexure – 1

### Specifications and Allied Technical Details

#### SPECTROMETER:

1. Benchtop design, **True simultaneous** and background correction including simultaneous measurements of all analyte wavelengths, internal standard, and background ICP-OES system uses solid-state detector technology & **polychromator-based optical system**.
2. **The resolution** of the system must be **0.007nm** at around 200nm or better. The entire optical system must be closed in an argon-purged and thermo-stated optical enclosure.
3. A system purge of the **polychromator** for determinations made at wavelengths below 190nm must be standard. **Argon** may be used as purge gasses and the gas flows must be controlled by the system controller.
4. Viewing of the plasma must be computer controlled. **Dual View (torch)**. The system should have the option of selecting any wavelength in any mode (axial/radial or both) as per users' discretion.
5. The instrument must be able to perform determinations across the entire spectrum, both UV and Visible **167- 852nm**
6. **Simultaneous echelle type grating & 265 mm or less effective focal length**.
7. The semi-demountable dually viewed torch is to be quickly and simply removable, fully interlocked and is to be supplied as standard with a 2.0mm diameter demountable center tube

#### ICP SYSTEM GAS CONTROL:

1. The instrument must monitor **all gas pressures** stabilized with **mass flow control**. The interlocks must be continuously monitored and if any interlock is interrupted, the plasma should shut down automatically. All the MFC should be factory fitted \*
2. Plasma ignition and shutdown must be computer controlled and totally automated.
3. The instrument must include a mechanism to eliminate the cool end of the plasma for minimizing self-absorption and physical interference.
4. The optic system **must have a beam blocker** to protect the optical components from the extreme UV region when no data acquisition is taking place.
5. **The total gas consumption of the ICP including the purge gas must be < 20L/min. A supporting document available in the public domain must be provided.**
6. The system is to be fully interlocked against gas failure.

#### SYSTEM DETECTOR

- **Solid-state detector (CID)** optimized for performance across the entire emission spectrum, anti-blooming protection to enable the simultaneous measurement of trace level analytes in the presence of major matrix constituents.
- Peltier cooled detector to minimize dark current thereby enhancing instrument performance & detection limits.
- The detector must have **Full frame imaging** capabilities



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### RF GENERATOR

- The solid-state RF Generator must run at a frequency of 27MHZ or more.

### SAMPLE INTRODUCTION SYSTEM

- The instrument must include an appropriate ICP torch and Concentric Quartz nebulizer (Acid Resistive) spray chamber system as a standard for aqueous samples.
- The system must include a peristaltic pump of a minimum **3 channels**, that allows for the online addition of internal standards
- **Chiller/re-circulator should not be mounted to the instrument chassis and should be from the original manufacturer of imported origin. The vendor should supply a chiller re-circulator of appropriate capacity along with the system. -1 No**

### SYSTEM SOFTWARE

- The instrument system software shall be based on the windows operating system. **It should be compliant ready (21 CFR part 11 Compliant)**
- The software shall provide full control of all instrument functions including plasma ignition, gas flows, viewing position, and monitoring of safety interlocks.
- Software should also have a **comprehensive wavelength library (50,000 lines or more)** with an indication of the preferred line for each element. It should feature automatic identification of possible spectral interferences when selecting wavelengths for analysis
- The facility for an automatic backup of data onto a server must be offered along with the instrument software.

### PERFORMANCE

- The instrument must have superior signal detection and a working dynamic range of 9 orders of magnitude with the ability to use alternate wavelengths that are measured simultaneously.
- **Simultaneous analysis of all elements presents in your sample at a time.**

### Training:

- **Training should be imparted to 2 persons for 3 working days on operation, maintenance, and troubleshooting problems at the place of installation**

### Warranty:

The warranty of the equipment should be for a period of 12 months from the date of installation or 15 months from the date of supply whichever is earlier. During the warranty period free upgrades of the soft wares, if any, should be provided.

**SEAL & SIGNATURE OF THE BIDDERS**



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**Annexure – 2****FINANCIAL BID**

SN	Particulars	Quantity	Rate	Amount	Taxes, if any	Total Amount (Rs.) all inclusive
1	Purchase of ICP-OES (Kindly mention the make / model of the item quoted)	1 No.				

(Rupees.....only)

**SEAL & SIGNATURE OF THE BIDDER**