



विज्ञान एवं प्रौद्योगिकी उच्च अध्ययन संस्थान

(भारत सरकार के विज्ञान एवं प्रौद्योगिकी विभाग के अधीन एक स्वशासी संस्थान)

विज्ञान पथ, पश्चिम बड़ागाँव, गड़चुक, गुवाहाटी -781035, असम : भारत

INSTITUTE OF ADVANCED STUDY IN SCIENCE AND TECHNOLOGY

AN AUTONOMOUS R & D INSTITUTE OF DEPARTMENT OF SCIENCE & TECHNOLOGY, GOVT. OF INDIA

VIGYAN PATH, PASCHIM BORAGAON, GARCHUK, GUWAHATI-781035, ASSAM, INDIA.



No. IASST/e2220/2021-22/ 9686-

Date: 01.12.2021

Corrigendum No: 330/1


Date: 01/12/2021

Corrigendum to the Advertisement No. 330

The following amendments are made to the Advertisement No. 330 dtd. 29/10/2021

1. The last date for submission of bid is extended till 15/12/2021 5.00pm
2. The date for opening of bid is changed to 16/12/2021 at 11am.
3. The technical specifications, mandatory requirements, special requirements, general information are amended as enclosed in Annexure-I
4. The competent authority has exclusive right to reject the quotation even after opening the price bid if anomalies found in the quotation or any misinformation provided by the vendor.
5. Institute may ask vendors to provide any relevant documents if necessary.

Other terms and conditions shall remain same.


Registrar, IASST

Annexure- I

Part A: Technical Specifications

Sl. No.	Description
1.1	<p>Magnet:</p> <ul style="list-style-type: none">• Advanced and latest technology actively shielded superconducting magnet system with an operating field of 9.4 tesla and standard bore size (54 mm) with field stability of <10 Hz/hour or better.• Shortest possible Radial (less than 0.5 m) and Axial distance (less than 1.0 m) of 5 Gauss stray field from the centre of the magnet. Please specify the overall Magnet dimensions'/ceiling height requirements.• Built-in cryo-shims & room temperature shims.• Liquid He hold time (300 days or more) and liquid N2 hold time (more than 14 days).• Please specify the total Liq. He and N2 hold volume, refill interval and refill volume for He and N2.• Digital level sensors for liquid He (mandatory) and N2. Alarm function for low helium level/nitrogen level.• All support accessories for cryostat (e.g. Dewar/Cryocan (3 Nos) with min. capacity 50-55 L, liquid He and liquid N2 transfer line).• Pneumatic/Automatic sample load/spin/eject system.• Autosampler with a capacity of 20 samples or above.• Standard test samples for multinuclear studies.
1.2	<p>Spectrometer Console:</p> <ul style="list-style-type: none">• 2-channels RF systems with a provision of upgradation to 3-channels for ¹H, ¹³C, ¹⁵N, ³¹P, ¹⁹F, ²⁹Si, ¹¹B and ¹¹⁹Sn capable of performing all 1D and multi-dimensional NMR experiments. Mention the frequency scale of operation along with configuration and band width of each channel.• Automatic high performance gradient shimming for 1D and 2D along with lock, spin and insert/eject.• ²H lock channel with high precision phase and field correction.• Single/Multi Receiver capability for simultaneous acquisition of nuclei, receiver on each channel (2 channels=2 receivers). Receiver System with high dynamic range and minimal quadrature images and artefacts.• Appropriate amplifiers/preamplifiers for each channel for observation or decoupling of ¹H or ¹⁹F (at least 50W) and in the range of ³¹P to ¹⁵N (at least down to 140W)/¹⁰⁹Ag for routine ¹H detected HSQC/HMBC experiments also.• Observation of ¹H with ¹⁹F decoupling and vice versa should be possible without compromising the sensitivity of the observed nuclei.• Variable temperature unit with all components for both high at least (up to +150 °C) and low (up to -100 °C) temperature.• Cooling device/accessories for sample for Low temperature experiment down to -100 °C or below.

	<ul style="list-style-type: none"> • Software controlled Power Up and Power Down of spectrometer control system.
1.3	<p>Probes:</p> <ul style="list-style-type: none"> • 5 mm multinuclear Z-gradient based broad band probe with automatic tuning and matching facility for observation of ¹H nuclei with ¹⁹F decoupling or ¹⁹F observe nucleus with ¹H decoupling and for observation of nuclei in the range of ³¹P to ¹⁵N etc. with ¹H decoupling/observe. There should be a single advanced probe which should be capable to handle all active nuclei such as ¹H, ¹¹B, ¹³C, ¹⁵N, ³¹P, ¹⁹F, ²⁹Si and ¹¹⁹Sn. without changing probe or any manual tuning. <p><u>Desired Signal/Noise ratio:</u></p> <p><u>¹H sensitivity: 500:1 or more</u></p> <p><u>¹⁹F sensitivity: 500:1 or more</u></p> <p><u>¹³C sensitivity: 200:1 or more</u></p> <p><u>³¹P sensitivity: 100:1 or more</u></p> <p><u>¹⁵N sensitivity: 25:1 or more</u></p> <ul style="list-style-type: none"> • Probes should be equipped for variable temperature experiments (atleast -100 °C or below to +150 °C) with suitable attachment/kit.
1.4	<p>User Interface:</p> <ul style="list-style-type: none"> • One high performance state-of-the-art workstation with tools/software/data cards for data acquisition, processing, plotting, structure verification, spectral simulation and multiple analyses of 1D, 2D (DEPT, HSQC, TOCSY, COSY, HETCOR, NOESY, HMBC, DOSY, DQF COSY, J-resolve etc.) and 3D experiments. • PC Work station and Printer loaded with Windows along with LCD monitor (24 inch) • Data processing software should be compatible with Windows version. • Software for molecular structure determination, diffusion and kinetics analyses. • Facility for machine calibration.
1.5	Anti-vibration leg/stand and suitable earth quake resistant platform (mention the lower limit of the damping frequency vibration)
1.6	<p>Accessories:</p> <ul style="list-style-type: none"> • Best quality NMR sample tubes (5 mm), 2D NMR sample tubes and caps-100Nos or more. • Data processing license software for multi user post run application-at least 5Nos. • Sample spinner/holder for 5mm NMR tubes: 10 for routine experimental use and 2 for low temperature experiments. • One suitable trolley for transporting cryocans. • ISO-9001 certified oil free/scroll and soundless air-compressor complete with dryer with rating and specification capable of catering all the needs, with sufficiently big buffer tank along with the system. The vendor should quote both. • Complete set of Instruction Manuals, CDs, DVDs and on-line support for troubleshooting, caution labels, standard, samples kit, spectrometer tool set etc.

Part B: Mandatory Requirements

Sl. No.	Description
2.1	Delivery and installation at IASST-Guwahati.
2.2	Safe Delivery of goods: is the exclusive responsibility of the vendor.
2.3	The vendor is responsible for the delivery/installation/commissioning/validation until IASST Guwahati. The customer is not responsible for any mishap/breakdown/damage of the equipment while in transport and custom's clearance. The vendor has to take the full responsibility of the delivery of the equipment until installation/commissioning/validation at IASST-Guwahati.
2.4	Acceptance of the ordered goods is subject to successful installation and commissioning at our site.
2.5	Vendor should confirm the supply of required amount of Liquid helium for its installation and regular refilling
2.6	Comprehensive warranty for a period of 5-10 years from the date of successful installation of the equipment including refilling of liquid He. 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 and urgent basis. The warranty on the associated software should cover providing of upgraded version/s, if any, released during the warranty period free of cost.
2.7	Contact details of the concerned person supported by a Service Centre in North-East region for immediate service if required should be provided.
2.8	The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc.
2.9	Installation certificate will be issued only after satisfactory functioning of the instrument, demonstration of all the modules & onsite training at IASST-Guwahati, Staff and Students.
2.10	Demonstration of all the applications and facilities as per the demand of the users. Training on specialty applications mentioned below are required: <ul style="list-style-type: none">• ¹H NMR sample preparation and full operation.• Demonstration on acquisition and analysis of ¹H, ¹³C, solvent suppression, 2D (DEPT, HSQC, TOCSY, COSY, HETCOR, NOESY, HMBC, DOSY, DQF COSY, J-resolve) and 3D spectra.• Demonstration on acquisition of spectra at low and high temperature.• Multinuclear sample preparation and full operation.

	<ul style="list-style-type: none"> • Demonstration for safe NMR operation, data acquisition, analysis, print, store, transfer facilities. • Calibration, testing, and baseline analysis of standard and unknown samples. • Training on the NMR software for operations. <p>Demonstration of capabilities like for multinuclear probe, Autosampler, advanced NMR techniques.</p>
2.11	<p>The Bidder should have established service base, preferably in the north-eastern part of India at least since last 5-10 years.</p> <p>All contact details, including email and phone numbers of the office/s and personnel of Bidder should be provided.</p>
2.12	<p>Vendor must provide one fulltime operator from the company having sufficient knowledge for operation and maintenance of the instrument with a minimum period of 5 years. Company will be responsible for immediate reemployment of the operator if the employed operator leave the job in between.</p>

Part C: Special Requirements

Sl. No.	Description
3.1	Appropriate UPS system with 1 hour backup must be quoted.
3.2	Appropriate room layout/size requirements for the magnet and console and temperature required for NMR Room. Personal visit to installation site at Vendor's expense after order is received.
3.3	List of complete safety regulations should be specified.
3.4	The vendor should provide the total number of installations of 300-600 MHz NMR instruments installed in India and North-East Region. Please enclose full list of such users in India with contact name/email/phone and record of after sales services is to be provided.
3.5	Complete installation details.
3.6	Mention the power requirement for the main facility and for the accessories.
3.7	Requirements of space, electricity and other auxiliaries (e.g., gas lines, water, chiller, solvent sources, etc., if applicable) for the equipment should be specified

Part D: General Information

Sl. No.	Description
4.1	Detailed specifications as well as prices for each item/accessory should be mentioned in the quotation.
4.2	The technical specifications should be quoted in the same manner as described in the technical specifications desired in the tender. A compliance report should be attached with technical bid. If there is any deviation in above mentioned specifications, the Technical deviation sheet should be duly filled highlighted in remarks.
4.3	Include standard configuration in the main quote and quote separately for optional items and other possible enhancements. However, optional items will not become part of comparison during commercial comparison.
	Vendor should provide a certificate that the spares will be provided in future for a period of ten years at least.
4.4	Please specify the shortest possible delivery time for the equipment from the date of opening of LC.
4.5	Specify line-width, pulse-width, sensitivity, RF duty cycle, frequency range, temperature range etc. for each probe and each nucleus.
4.6	Specify other requirements such as compressed air quality and purity of air etc.
4.7	Confirmation of having backup probes (and other essential and common parts) with the vendor, so that, in case of probe breakdown at site, back up probes could be used till the replacement reaches.
4.8	Software upgrades should be made by the vendor as and when the new versions are released by the manufacturer / vendor at no additional cost.

Additional points:

- **The competent authority has exclusive right to reject the quotation even after opening the price bid if anomalies found in the quotation or any misinformation provided by the vendor.**
- **Institute may ask vendors to provide any relevant documents if necessary.**

Part E: Quote as Optional

Sl. No.	Description
5.1	<ul style="list-style-type: none">• Possibility for upgradation for solid NMR and other accessories must be quoted.• Additional Broad band “inverse gated probe” for improved 2D experiment with higher sensitivity of ¹H. This probe should be a Standby probe in case of any Probe failure.• Automatic Sample changer (auto sampler) for 60 or more samples.• Complete analysis software for additional computer.• AMC with Helium filling work for 5-10 years after the expiry of the initial warranty.• Automated software for NMR experiments without deuterated solvents is desirable.