Notice Inviting Tender

Head, Dept. of Chemistry, University of Delhi, on behalf of The Registrar, Univ. of Delhi, Delhi-110007 invites **Online Open Tender on two bid system** (Technical and Financial bid) from reputed manufacturers or their authorized agents for the **supply and installation of equipment listed below:**

S. No.	Item name	Quantity	**Tender Ref. No**.
1	400 MHz NMR Spectrometer	01	Ref No. CHEM/2017/400 MHz NMR /02

The complete bid documents can be downloaded from the university website : www.du.ac.in, or from the Central Public Procurement portal: www.eprocure.gov.in. **Physical submission of bids will not be accepted**

A)	Date of commencement of e-tender document and availability on the website: www.du.ac.in and www.eprocure.gov.in	DATE: 05-04-2017 Time 5:00 PM
B)	Pre Bid Meeting	DATE: 10-04-2017 Time 3:00 PM
C)	Last date for sale of bidding document	DATE: 27-04-2017 Time 5:00 PM
D)	Last date and time for submission of bids **online**	DATE: 27-04-2017 Time 5:00 PM
E)	(i) Last date for **physical submission** of EMD, and other original documents. **Address for physical submission of documents**: Department of Chemistry North campus University of Delhi, Delhi-110007	DATE: 27-04-2017 Time 5:00 PM
F)	Date and Time of opening of Technical bids	DATE: 02-05-2017 Time 3:00 PM
G)	Date and time of opening Financial bids	DATE: 05-05-2017 Time 5:00 PM
H)	Place of opening of Bids Place for physical submission of all documents	Department of Chemistry, University of Delhi, Delhi-110007
I)	Address for all communication	Head, Department of Chemistry, University of Delhi, Delhi-110007

(i) Physical submission of original EMD Bank guarantee in favor of The Registrar, University of Delhi and also upload the scanned copy of the EMD **online**.

(ii) Representatives coming for the physical submission should have an authorization letter from their company.

Date: 05-04-2017

Technical specifications for 400 MHZ NMR SPECTROMETER

Equipment:400 MHZ NMR SPECTROMETER
Tender Ref. No. : CHEM/2016/NMR/02

Supply, Installation and commissioning of 400 MHz FT-NMR Spectrometer

1. Magnet and Container	➢ Latest technology shielded magnet 9.4 Tesla with 54 mm bore superconducting magnet for 400MHz ➢ Anti-vibration platform to damp the frequencies above 5 Hz to get neat spectra should be quoted as part of the system. ➢ Helium hold time should be at-least 365 days with auto level monitoring and recording. ➢ Liquid nitrogen hold-time should be at least for 15 days. ➢ One set of Liquid Nitrogen Line with cork should be provided ➢ At least 20 Room Temperature shims for excellent line-shape should be provided.
2. Electronics and Console	➢ **Radiofrequency (RF) Generator:** Two independent channels to handle nuclei such as ^{1}H, ^{13}C, ^{15}N, ^{19}F, ^{31}P. Capable of performing multidimensional NMR experiments. High performance power transmitters with High band ($^{1}H/^{19}F$) amplifier (50 watts) and a low (or Broad) band (X) amplifier (145 watts or more). ➢ Gradient experiments such as Pulsed Field Gradient experiments with higher gradient strength, faster shimming should be the capability of the machine. Frequency generation, digital receiver controls with over sampling and digital filters should be quoted appropriately. ➢ Provisions for setting frequencies and field to lock and Digital-Auto Lock providing higher stability. System should achieve locking of the sample with different combination of solvents in a short duration without manual interference. ➢ Auto shimming feature for solution. Gradient unit for Auto shimming (1H/2H) to achieve good line

	shape of sample and to perform all new gradient pulse program based experiment with capability to run DOSY and other gradient experiments having capacity of 30 G/cm or better with 10 Amp external gradient. ➢ Automatic Tuning and Matching for the nuclei under study for liquid samples. ➢ Variable temperature experiments to be done in the range +80^{o}C to -80^{o}C with $\pm$ 0.1^{o}C variation or more comprehensive range should be provided. Controller should be able to sustain temperature stability for both high and low ranges upto a longer period of time. Variable temperature accessories, if any required for the variable temperature control experiments should be quoted appropriately. ➢ High bandwidth receiver system with digital quadrature detection ➢ 16 Bit Analog to Digital Converter or better to be quoted
3. Probe	5 mm Multinuclear Broad Band Direct/observe Z-gradient Probe capable of covering nuclei ranging from ^{1}H, ^{19}F, ^{31}P to ^{15}N, ^{39}K, ^{109}Ag with computer controlled automatic tuning and matching (ATM)
4. Auto-sampler	Fully functional auto sampler with capacity of handling at least 60 samples should be included.
5. Hardware and Software Requirements	➢ High performance Latest computer (PC) system or workstation for controlling NMR data acquisition and processing. ➢ Software for multi-dimensional NMR data collection and processing for liquids samples ➢ NMR Software for acquisition and processing of 1D and 2D data. ➢ FID data can be accessed through the LAN connection ➢ High performance laser printer ➢ Suitable online branded UPS (10 KVA) for 1 hour backup with branded ultra-shield maintenance free batteries ➢ Compatible imported oil free, Noise free air compressor with dryer

	➢ Onsite training for operation and maintenance should be given during the installation. ➢ Standard set of samples to calibrate the instrument with tool kit. ➢ NMR software for processing the FID file in PC/Laptop for multiple users.
6. Warranty	➢ Warranty for three years from the date of installation, which should cover all hardware/software. ➢ Comprehensive warranty /AMC for subsequent years should be quoted separately.
7. Optional	➢ One cryocan of 55 liters capacity with transfer line for N_2 filling. ➢ 60 Spinner turbines for 5 mm NMR tubes. ➢ 200 high quality 5mm NMR tubes ➢ Cost of operator for 5 years should be quoted separately.

The following technical requirements should be strictly met and necessary documentation has to be enclosed along with the main quotation.

- The spectrometer has to be optimized for the standard test/reference samples and to be successfully demonstrated at our site.
- Complete product catalogue describing all the required basic and optional items should be produced.
- Initial supply of liquid helium and liquid nitrogen for installation should be arranged by the vendor for free.
- Prices for the each item / accessory of the spectrometer should be quoted separately
- Software upgrades should be made by the vendor as and when the new versions are released by the manufacturer / vendor at no additional cost.
- Installation should be done at free of the cost.
- In case of magnet-quench during the shipment, installation or at subsequent times due to faulty design or any other technical failure, the necessary costs for recharging of magnet or replacing of magnet should be borne by the vendor.

- Insurance of equipment should be borne by the vendor before the installation
- Vendor has to enter into rate-contract to supply Liquid Helium for keeping the magnet active.
- Vendor should submit the list of end users in India.
- Technical and financial bids should be submitted separately

COMMERCIAL TERMS AND CONDITIONS

- Prices should be quoted on CIF up to Delhi University including transportation, insurance and custom clearance.
- The price bids shall remain valid for a period of 90 (ninety) days from the date of opening of technical bid. Delhi University reserves the right to reject a bid valid for a period shorter than 90 days as non-responsive without any correspondence.
- The delivery period should be within 4 months from the date of receipt of L/C. Bids offering delivery period beyond stipulated time period will be treated as non-responsive and will be summarily rejected.
- The prices quoted by the bidder in the price bid are final and no adjustment of the same shall be made on account of any variations in costs of materials or any other cost component affecting the total cost in fulfilling the obligation under the contract. The prices once offered shall remain firm and fixed and shall not be subject to escalation for any reason whatsoever during the currency of the contract.
- Payments: 90% (ninety percent) of the total payment will be released on presentation of complete and clear shipping documents and Remaining 10% will be released after installation/demonstration/commissioning of instrument at Delhi University site

Important note:

1. All the requirements laid down under the above specifications must be carefully read and understood before claiming your instrument as "complied".
2. Please provide compliance statement sheet with technical bid and if there is any deviation in above mentioned specifications, the **Technical deviation sheet** (Annexure - IX) should be duly filled highlighted in remarks.
3. Any items required additionally for the purpose of installation should be quoted and supplied along with the basic instrument. In case the items are being provided free, then it should be mentioned free, or if it is at a certain cost, then it should be quoted separately, and included with the instrument cost.

4. **We need the machine to be supplied with all necessary items completely towards the installation and commissioning by the vendor.**