

**(1. E- Tender for Nuclear Magnetic Resonance Spectrometer (600 MHz)**

National Institute of Pharmaceutical Education and Research (NIPER) invites online e-tenders in two –bid format **for Nuclear Magnetic Resonance Spectrometer (600 MHz)** at the Institute as per the specification given in the tender documents and other details can be obtained from the website: [www.tenderwizard.com/NIPER](http://www.tenderwizard.com/NIPER) and official website of the NIPER <http://www.niper.gov.in>. The e-tender also available on Govt. of India's Central Public Procurement Portal (e –procurement) i.e. <http://eprocure.gov.in/>.

1	Downloading of e-tender document	Start Date: 12.06.2020 at 09.00 AM
		End Date : 14.07.2020 at 01.00 P.M
2	Date of submission of e-tender	Start Date : 12.06.2020 at 10.00AM
		End Date : 14.07.2020 at 05.00 P.M
3	Physical submission of Tender fee and EMD ( offline)	Start Date : 12.06.2020 at 10.00AM
		End Date : 14.07.2020 at 05.00 P.M
4	Opening of Technical Bid (online)	15.07.2020 at 11.00 A.M

**Director, NIPER reserves the right to reject any or all tenders without assigning any reasons. Corrigendum/Addendum or Cancellation of this advertisement, if any, shall be published on NIPER Website and [www.tenderwizard.com/NIPER](http://www.tenderwizard.com/NIPER).**

**For participating in the above e-tender, the bidder shall have to get themselves registered with <http://tenderwizard.com/NIPER> and get user ID & password. Class 3 Digital Signature Certificate (DSC) is mandatory to participate in the e-tendering process. It is advisable to complete the online submission process well before time to avoid any delay in submission. For any clarification/difficulty regarding e-tendering Process flow please contact on helpdesk numbers 09257209340, 08045628821, 0172-5035950.**

**Officiating Registrar**

## **Technical Specifications for Nuclear Magnetic Resonance Spectrometer (600 MHz)**

### **01 Nos.**

#### **1. Magnet, Container, and Spectrometer Frequency:**

- i) Latest version of High performance 600 MHz NMR spectrometer with highly shielded magnet for the most up-to-date homo and hetero-nuclear multi-dimensional liquid NMR experiments.
- ii) 5G fringe field: horizontal  $\leq 1$  m from centre of the magnet and vertical  $\leq 2.0$  m from the centre of the magnet.
- iii) Field drift  $\leq 6$  Hz/hr or better.
- iv) Liquid Helium hold time: 150 days or more.
- v) Liquid nitrogen hold time: Around 14 days or more.
- vi) Liquid Helium level digital meters with alarms.
- vii) Anti-vibration platform to damp the vibration.
- viii) High performance cryo- and room temperature shim system for optimal line shape. Minimum nine numbers of cryogen-cooled. State of the art room temperature shims as well as cryo- shims for best line shape including line width and all other related.
- ix) All support equipments for cryostat (e.g. liquid He and liquid N<sub>2</sub> transfer lines).
- x) Pneumatic sample load and eject system.
- xi) Deuterium lock channel should be compatible with gradients and automated shimming hardware.
- xii) Automated and manual shimming capability with associated accessories (software / hardware)

#### **3. Console and Electronics:**

- i) Two independent Broad Band RF channels to handle nuclei (such as <sup>1</sup>H, <sup>13</sup>C, <sup>15</sup>N, <sup>19</sup>F, <sup>31</sup>P and other active nuclei) and high performance power transmitters for double resonance liquid state NMR experiments and decoupling.
- ii) Linear broad band amplifiers with minimum power levels of 100 W for <sup>1</sup>H and 300W or better for X (<sup>13</sup>C, <sup>15</sup>N, <sup>31</sup>P, <sup>19</sup>F and other active nuclei), respectively for double resonance liquid state NMR experiments and decoupling.
- iii) Auto-shimming; faster shimming capability.
- iv) To perform Gradient spectroscopy including all new gradient pulse program-based experiments with capability to run DOSY and other gradient experiments: Pulsed field gradient (PGF) strength having capacity 30G/cm or higher, , high quality PFG-based solvent suppression.
- v) Single/Dual/ Multi receiver capability, digital receiver for NMR signal acquisition, filtering, sampling, multi nuclei acquisition etc.
- vi) To perform variable temperature experiments from -100 dec c to +150 dec c.

- vii) Analog to digital converter (ADC): 16 Bit
- viii) High bandwidth receiver system to connect with host computer, Digital quadrature detection
- ix) Shaped pulse calibration capabilities and auto implementation in 3D experiments.
- x) Frequency, phase and amplitude shaping capabilities with simultaneous switching of the parameters.

**4. Probes:**

5 mm variable temperature probe for observation of multinuclei with automatic tuning and matching, high S/N ratio.

**Probe specification as below:**

- A) Sensitivity value for each nuclei of the probe measured using standard samples
  - 1H Sensitivity  $\geq$  900:1 (0.1% ethyl benzene in the sample tube equivalent to 555 PPT made by Wilmad, one scan).
  - 19F Sensitivity  $\geq$  800:1 (0.05 % TFT, one scan)
  - 13C Sensitivity  $\geq$  350:1(10% ethyl benzene in the sample tube equivalent to 555 PPT made by Wilmad, one scan).
  - 31P Sensitivity  $\geq$ 250:1(0.0485M TPP, one scan)
  - 15N Sensitivity  $\geq$  40:1(90% formamide, one scan.)
- B) Pulse width 1H  $\leq$  10  $\mu$ s and 13C  $\leq$  12 $\mu$ s.
- C) 1H line shape  $\leq$  0.6/6/12Hz.
- D) 1H resolution  $\leq$  0.6 Hz or better.

**5. Auto Sampler:**

Fully functional auto sampler with capacity of handling 60 or more with auto-inject mode along with 60 spinners.

**6. Hardware and Software (Data system):**

a) Hardware: Two latest available workstation with suitable latest operating system with latest upgraded software for 1D & 2D acquisition and processing. One for data processing and another for operation of NMR instrument along with display and licences with original CD.

Laser jet multi functional printer.

b) **Software:** Most comprehensive latest HNMR software capable of all up to date heteronuclear multi dimensional NMR experiment including latest experiments for reconstruction of multi dimensional NMR spectra. Package should include all latest pulse sequences for multi dimensional NMR experiments available with the vendor. Licensed software modules should include the following: Acquisition, Processing, plotting, Multiplet Analysis, Deconvolution and Automation. Any software upgrade (pulse sequence and processing) or new software (pulse sequence and processing) that are released during the warranty period should be given to the user free of cost. Software should be provided in DVD/CDs. Multiple licences ( more than 10) to be provided for processing of data.

**7. UPS System**

Appropriate standard and branded UPS  $\geq$  15 KVA with at least 1 hour back up for the uninterrupted smooth functioning of the entire system.

**8. Compressor**

3 HP, oil-free, low-noise level air compressor with dryer and appropriate filters for supply of dry air with appropriate dew point for smooth operation of pneumatic unit, auto sampler and variable temperature unit of the spectrometer.

**9. Miscellaneous and accessories:**

- i) Installation and making instrument fully functional: Necessary arrangements in the provided specific space for complete installation and making the instrument fully functional should be done by vendor.
- ii) The power requirement for proper functioning of the NMR instrument with all accessories required for functioning the instrument should be provided by the vendor.
- iii) Initial supply of liquid helium and liquid nitrogen for installation.
- iv) Standard sample kit of NMR system for acceptance test procedure.
- v) NMR tubes 5mm -500 number.
- vi) NMR tubes 3 mm -100 number.
- vii) 20 nos spinners for 5mm tube extra.
- viii) 30 Nos spinners for 3mm tube.
- ix) Liquid helium transfer line.
- x) Liquid nitrogen transfer line.
- xi) Tool kit.
- xii) Essential spares parts for magnet / spectrometer.
- xiii) Spare fuses and one set of fans.
- xiv) Liquid N2 Dewars (four number of 50 lts capacity each )

#### **10. Training:**

Vendor will provide trained man power for the operation of instrument for 1 year from the date of installation. Onsite training to personnel for smooth operation of the instruments as and when required during the first year of operation.

#### **11. Service**

Service problems should be attended within 72 working hours. A competent service engineer of the supplier should make as many visits as are necessary to rectify the fault.

Quote must have a compliance report on all the above points. A detailed specification sheet highlighting all above specification must be attached.

In case of instrument break down during the shipment, installation or at subsequent time due to faulty design or any other technical failure, the necessary cost for recharging magnet/replacing magnet or any other parts should be borne by the vendor.

Vendors are required to arrange for all the cryogenics including liquid Helium and liquid Nitrogen and related accessories required for charging and installation of the magnet.

#### **12. Special Requirement:**

- a. As the NMR instrument is an expensive and advanced equipment, it is mandatory that the facility must be multiple-user specific. Also, it is important that the equipment is stable and run for a long time. Thus it is important for the vendors that they must supply

appropriate documents specifying their users in higher academic institutions in India. Appropriate certificates from the users for the last three year for the model quoted must be supplied justifying the stability, ease of operation and maintenance requirement such that we have the option to choose the best system in terms of performance and not mere specifications alone.

- b. Further, as the instrument is expensive and multi user equipment, One year standard warranty followed by AMC for 5 years is a must and this must be specifically mentioned in the quotation by the vendor/ principal. In case, the vendor provides the warranty, the principal should certify (authenticate). Appropriate documents must be attached along with the quotation in this regard.
- c. A certificate will be required from the original instrument manufacturer that technical support along with all essential spares will be provided / made available for at least 10 years after the expiry of one year standard warranty period.

**Term and Condition:**

- a) Vendor should quote as per specifications. Installation certificate will be issued only after satisfactory working of the instrument (Demo of all the modules) & onsite training
- b) Vendor should commit to supply helium to keep the superconducting magnet active. In case of magnet quench due to poor supply of liquid helium the necessary cost of recharging or replacing magnet should be borne by the vendor.

**13. Optional**

- 1. Probe for small volume samples.
- 2. 3 channel upgradation with dual receiver should be possible to be added later. Price quotation for the same should be provided.
- 3. Vendor should quote for AMC price for five years with yearly break up after completion of one year standard warranty and five years AMC.
- 4. Vendor should quote for supply of liquid helium for five years.
- 5. Instrument will be bought on buy back basis. Old 300 MHz non functional NMR is offered as buy back. In that case NIPER will provide room with electrical connections & A/C provisions. Vendor has to remove the old system and will make the room ready for installation. All civil work required has to be done (flooring of half of room to be lowered by one foot, increasing the width of door, new wooden door and aluminum partition) by the vendor.

**NOTICE INVITING e-TENDERS**

- 1. The Bidders shall have to submit their Bids online in Electronic Format Digital Signatures. For participation in the e-tendering process, the Bidders need to register themselves at <http://tenderwizard.com/NIPER> and get user ID and passed. Class 3 Digital Signature Certificate (DSC) is mandatory to participate in the e-tendering process. ( Helpdesk No. for registration – 09257209340 & 08054628821).
- 2. E-Tender processing fee shall be payable to M/s ITI Limited through their e-gateway by credit/debit card, internet banking facility and non refundable.

3. No tender will be accepted in physical form and in case it has been submitted in Physical it shall be rejected without any communication to the sender.
4. Bids will be opened online as per time schedule mentioned in tender document.
5. The tenderer are requested to read the tender document carefully and ensure to compliance with all the instructions herein. Non –Compliance of the instructions contained in this document will disqualify the tenderer from the tendering exercise.
6. Before submission of online bids, bidders must ensure that scanned copies of all the necessary documents have been uploaded with the bid.
7. Director NIPER SAS Nagar will not be responsible for any delay in online submission of bids due to any reason whatsoever.
8. The tenderer shall be required to submit the Earnest Money Deposit (EMD) for an amount of Rs. **900,000/- (Rupees Nine Lacs only)** which is refundable and a non-refundable tender fee for an amount of **Rs.5000/- (Rupees Five Thousand only)** by way of demand drafts only. The demand drafts shall be drawn in favour of “Director NIPER” payable at Mohali / Chandigarh. The demand drafts for earnest money and tender fee should be send through registered post to “Director NIPER, Sector 67 SAS Nagar, Punjab” so as to reach NIPER before the date of opening of the technical bids. It is further required that the scanned copies of the Demand Drafts should be forwarded through e\_tendering mode along with other relevant documents. In case of non receipt of tender fee and earnest money in physical form before the opening of tender, the tender will be straightway rejected.
9. The details of the tender fee and Earnest Money Deposit specified in the tender document should be same as uploaded scanned copies of the Demand drafts and send through registered post.
10. The Financial Bid through e –tendering of only those bidders shall be opened who will qualify in the technical bid and are approved by the technical Committee.
11. **This Institute is registered with DSIR for duty free imports under duty exemption certificate. Preference shall be given to those tenderer who shall offer duty free prices for direct import. we will also provide you GST Concessional Certificate alongwith our purchase order, if required. (Notification No. 45/2017-Central Tax (Rate) Dt. 14<sup>th</sup> Nov. 2017).**
12. Only manufacturers or their authorized distributors/agents are entitled to submit the proforma invoice/quotation. Manufacturers are requested to furnish themselves the proforma invoice where enquiries have been addressed to them. Foreign manufacturers may, however, direct their Indian Agent to quote on their behalf in which case the Indian Agent should attach with his quotation a copy of the letter from the foreign manufacturers directing the Indian Agents to quote on their behalf against this quotation enquiry (General authority letter will not suffice).
13. The quotation/proforma invoice for the imported items should be prepared as under :
  - i. Complete description, catalogue no., make, name of the manufacturer, model, quantity, rate of each item and total amount.
  - ii. Total FOB/FCA value of all items.
  - iii. Indian Agency Commission payable to the Indian agent, if any.
  - iv. Net FOB/FCA value (i.e., total FOB value as in (ii) above, less Indian Agency Commission as in (iii) above.
  - v. Add freight charges upto New Delhi (India).
  - vi. Insurance upto destination at NIPER, S.A.S. Nagar, Mohali (Payable on actual)
  - vii. Total CIF value (iv + v + vi)
  - viii. Add. Custom clearance charges and F.O.R.Charges ( required document provided by NIPER)
  - ix. **F.O.R.NIPER Mohali ((vii+ viii)**

**Note: NIPER is an academic non-profit research Institution. You are, therefore, requested to offer maximum possible discount in the first instance.**

- x) Quorate may be evaluated on FOB value. The Institute may also go for domestic insurance from warehouse to warehouse. The complete description viz. make and model of the equipment and name of the manufacturer must be indicated clearly in the proforma invoice/quotation failing which the same shall be liable to rejection.
  - xi) The spare parts/wear & tear consumables, if any, required for trouble free operation of equipment for 3 years shall be quoted separately giving the full nomenclature, rate, quantity and shelf life of each item. The value of such spare parts/wear & tear, consumables may not exceed 2% of the FOB value. (The cost of such spare parts/wear & tear consumables will not be considered while evaluating the quotations).
  - xii) In case no Indian Agency Commission is payable, then this fact must be very clearly mentioned in the quotation.
  - xiii) The tenderer firm should furnish along with the bid a certificate that the entire Indian Agency Commission shall be payable in India in Indian Rupees and that no Indian Agency Commission other than that stipulated in the Proforma Invoice is payable by the foreign manufacturers to Indian Agent.
  - xiv) The items which can/are to be procured indigenously may be listed separately.
14. The Tenderers must confirm in their bid acceptance in full of the terms and conditions in this enquiry. Tenderers must note carefully that any conditional offer or any deviation from the terms and conditions of this enquiry may render the quotation liable for rejection.
15. The manufacturers must guarantee that the quoted item(s) is/are new and not the one used/sold earlier.
- 16. It is specifically required that the tenderer will supply all the operating and service manuals circuit diagrams alongwith the equipment.**
17. In addition to quoting for the equipment, the tenderers are also requested to quote separately, the charges and terms and conditions of SERVICE CONTRACT FOR A PERIOD OF FIVE YEARS, for maintaining the equipment at this institute after the expiry of the period of guarantee/warranty. The terms and conditions of the Service Contract are given in **Annexure 'B'**. It may be noted that the service contract charges may also be considered along with the cost of equipment while evaluating the quotations. Price List of Spares parts must be quoted.
18. **The equipment should be quoted only for 220 volts and 50Hz electricity supply.** The extra requirement of line voltage, current rating etc. and the optimum climate and environment required for the equipment must be stated precisely. Voltage stabilizers/isolation transformers/CVT/UPS etc., as may be required shall be listed separately. The full technical specifications and literature in respect of the voltage stabilizer etc., must be furnished.
19. The successful firm or his Agent will be required to furnish a performance guarantee bond in the shape of Bank Guarantee for an amount equivalent to 10% of the FOB value of the equipment towards execution of supply order and ensuring timely supplies/satisfactory installation and handing over the equipment in good working conditions within stipulated period and for carrying out after sales services during warranty/guarantee period. The Bank guarantee will be submitted within a period of 15 days after the placement of the supply order failing which the order will be liable to be cancelled.
20. The successful firm will be required to agree for payment of penalty for exceeding permissible downtime during guarantee/warranty period as defined in **Annexure 'A'**.

- a. In case total downtime exceeds the permissible limit, the guarantee/warranty shall be extended by the period in excess of the permissible downtime.
  - b) In case total downtime exceeds the permissible limit then in that event a penalty in Indian Rupees at the rate of 1/365 percent of FOB value of the equipment shall be recovered for each day in excess of the permissible downtime. The conversion of FOB value into Indian Rupees for the above purpose shall be the TT selling rate prevalent on the date of the releasing of the LC documents by the bankers.
21. If during the guarantee/warranty period, the equipment does not perform as per claims, the supplier will be asked to replace the entire unit or part thereof failing which the supplier will have to bear the cost of liquidated damages.
22. The compliance sheet as per **Annexure 'C'** may be filled and submitted online along with necessary documents maximum upto 4 pages.
23. The Indian agents are allowed to quote for only one manufacturer in a parallel/subsequent tenders for the same item.
24. **ELIGIBILITY CONDITIONS:** The firm should have experience of performing job contract of similar nature in reputed Govt. / Semi Govt. / Govt. undertaking / University establishment and other government / private establishments. The firm must have Service Tax Registration (if applicable), Registration of Declaration of ownership under Indian Registration Act, 1908 (or any other Act, as applicable), PAN / TIN and a valid Labour License as on the date of submission of tenders. The firm should have technical competence, financial resources, reputation and the personnel, to perform this contract.
25. The tenderer is being permitted to tender in consideration of the stipulation on his / her part that after submitting his / her tender, he / she will not refuse his / her offer or modify the terms and conditions thereof. Should the tenderer fail to observe and comply with the foregoing stipulations, the earnest money will be forfeited by the Institute. In the event of the offer made by the tenderer not being accepted, the amount of earnest money deposited by the tenderer will be refunded to him / her, in the manner prescribed by the Institute.
26. In case of partnership firms, where no authority has been given to any partner to execute the contract / agreement concerning the business of the partnership, the tenders and all other related documents must be signed by each partner of the firm. A person signing the tender form or any other documents forming part of the contract on behalf of another shall be deemed to warranty that he has the authority to bind such other & if, on enquiry, it appears that the persons so signing had no authority to do so, the Institute shall without prejudice to other civil and criminal remedies cancel the contract and hold the signatory liable for all costs and damages. Each page of the tender and the schedules to the tender and annexure, if any, should be signed by the tenderer.
27. GST or any other tax applicable or made applicable after awarding the contract in respect of this contract shall be payable by contractor and NIPER, Mohali will not entertain any claim whatsoever in this respect. However the TDS or any other tax which is as per the rules of the Govt., shall be deducted at source from the bills of the successful tenderer, as per rules / instructions made applicable from time to time by the government
28. The Director, NIPER reserves the right to reduce or increase the quantum of supplies or place repeat orders within a period of one year of date of order (on same rates and terms & conditions) or may also terminate the contract in the interest of the Institute, for any justifiable reasons, not mandatory to be

communicated to the tenderer. His decision shall be final & binding on all parties for any aspect of contract. Any dispute arising on the contract will be settled at his level by mutual consultation and in case of failure of settlement; the dispute shall be referred to the sole arbitrator to be appointed by him. The decision of the sole Arbitrator so appointed shall be final and binding on both parties. Arbitration proceedings shall be governed by the Arbitration & Conciliation Act, 96.

29. Acceptance by the Institute will be communicated by e-mail, FAX, Express letter or any other form of communication. Formal letter of acceptance and work order of the Tenders will be forwarded as soon as possible, but the earlier instructions in the FAX / e-mail / Express letter, etc. should be acted upon immediately. The quotation shall remain valid for a period of 120 days from the closing date of receipt of bids. The Contractor shall not sub-let the contract.
30. The tenderer will also have to furnish particulars relating to Income Tax clearance certificates, turnover, infrastructure status, etc.
31. In case of any loss or damage done to the property / existing infrastructure of the Institute attributable to the personnel of the contractor, the full damages will be recovered from the Agency / Contractor and decision of the Competent Authority of institute in this regard will be final and binding on the contractor.
32. Any information furnished by the bidder found incorrect at any later stage, shall make the agency liable to be debarred from future tendering / taking up the works in NIPER. The department reserves the right to verify the particulars furnished by the bidders independently.
33. In case the bidder(s) is/are of the opinion that the specification of the equipment are not generalized and favors a particular make or brand then it should intimate this Institute with relevant supporting documents.

#### **34. Arbitration**

1. In the event of failure to carry out the contractual obligations, within the stipulated period or extended period and determination of the contract for any reason. Violation of the warranties etc. the NIPER Mohali shall have the right to carry out the unfinished obligation at the exclusive cost and risk of the bidder/firm, after due notice and the difference so accrued shall be recoverable from the bidder/firm.
2. The provision of the Arbitration and conciliation Act, 1996 or as at relevant time and of rules framed there under and any statutory modifications thereof shall be deemed to apply and be incorporated in this agreement.
3. Upon every or any such reference, the cost of any incidentals to the reference and award(s) respectively shall be at the reasonable discretion of the Arbitrators or in the event of their not agreeing, of the Umpire appointed the amount thereof or direct the same to be fixed as between solicitors and client or as between parties and shall be direct by whom and in what manner the same shall be borne and paid.
4. Panel of arbitrators will be provided by NIPER Mohali out of which the bidder will have to select one.

5. The bidder shall have no objection if the officer who has dealt with the case at any stage is nominated as an arbitrator. Further, that one of the arbitrator's shall be Accounts Expert.
6. In case of vacancy being caused due to resignation, death or incapacity of the arbitrator's to function as such, the same shall be provided in the aforesaid manner and the new arbitrator's shall proceed from the stage at which vacancy is caused.
35. **Jurisdiction:** The court of Mohali alone will have the jurisdiction to try any matter, dispute or difference between the parties arising out of his tender/contract. It is specifically agreed that no Court outside and other than Mohali court shall have jurisdiction in this matter.
36. **Fore Majuere:** Any failure of omission or commission to carry out the provision of this contract by the supplier shall not give rise to any claim by one party, one against the other, if such failure of omission or commission arises from an act of God; which shall include all acts of natural calamities such as fire, flood, earthquake, hurricane or may pestilence or from civil strike, compliance with any statute and/or regulations of the Government, lockouts and strikes, riots embargoes or from any political or other reason beyond the supplier's control including war (whether declared or not) civil war or stage of insurrection, provided that notice of the occurrence of any event by either party to the other shall be given within two weeks from the date of occurrence of such an event which could be attributed to Force Majuere conditions.
37. **Risk & Cost** In the event of failure to carry out the obligations, within the stipulated period or extended and determination of the contract for any reason, violation of warranties etc. The NIPER Mohali shall have the right to carry out the unfinished obligation at the exclusive cost and risk of the bidder/firm, after due notice and the difference so accrued shall be recoverable from the bidder/firm.
38. **The Material** found defective upon opening by the supplier representative in presence of Central stores personnel/indenter of NIPER Mohali or not as per tendered specifications will be lifted back at the cost and risk of the supplier. The material lying in the NIPER Mohali premises would be at the supplier's risk and cost.
39. **Liquidated Damages:** In case the firm fails to execute the supply as per the purchase order in whole or in part as per the terms and conditions of PO, NIPER Mohali can impose the penalty @1% per week of the undelivered stores, subject to a maximum of 10%. It will also be open to the institute to procure the required item(s) from any other source at the risk and expense of the firm.

**Note: The Director, NIPER Mohali reserves the right to accept/reject any or all tenders without assigning any reason thereof and also to reject the material if the same is not found conforming to the specifications, with further right to affect risk and cost of the purchases.**

**Annexure A**

**CERTIFICATE OF GUARANTEE/WARRANTY**

(This certificate may be reproduced)

- i) I/We certify that the guarantee/warranty shall be starting from the date of satisfactory installation, commissioning and handing over of the equipment and of works conducted therewith covered under the Supply order in working Condition. During the guarantee/warranty period I/We shall provide “after sale service” and the replacement of any part(s) of the equipment or rectification of defects of work of the equipment will be free of cost. The replacement of the parts shall be arranged by us, at our own cost and responsibility. We undertake that the above guarantee/warranty shall begin only from the date of installation, commissioning and handing over the equipment in working order. The benefit of change in dates of the guarantee/warranty period shall be in the interest of the user/your Institute.
- ii) During the warranty period, we shall provide at least three preventive maintenance visits & all breakdown services without any charges.
- iii) Uptime Guarantee : During the guarantee/warranty period, we will be responsible to maintain the equipment in good working condition for a period of 328 days (i.e., 90% uptime) in a block of 365 days. All the complaints will be attended by us within 5 days of receipt of the complaint in our office. In case there is delay of more than 5 days in attending to a complaint from our side then you can count the number of days in excess of the permissible response time in the downtime.
- iv) We certify that the equipment being offered/quoted is the latest model and that spares for the equipment will be available for a period of at least 10 years and we also guarantee that we will keep the Institute informed of any up-date of the equipment over a period of 5 years.
- v) We guarantee that we will supply spare parts if and when required on agreed basis for an agreed price. The agreed basis could be an agreed discount on the published catalogue price or an agreed percentage of profit on the landed cost.
- vi) We guarantee to the effect that before going out of production of spare parts, we will give adequate advance notice to you so that you may undertake to procure the balance of the life time requirements of spare parts.
- vii) We guarantee the entire unit against defects of manufacture, workmanship and poor quality of components.

Date :

**Authorised  
Signatory  
(With Seal)**

Place :

**TERMS AND CONDITIONS OF THE SERVICE CONTRACT**

- i) During the service contract period, the firm shall provide at least THREE preventive maintenance visits and attend to all emergent and break-down calls per year.
- ii) Rate of AMC will be quoted for the period after completion of warranty period and order for AMC be placed after completion of warranty (if required)
- iii) The service contract charges must be quoted separately for each year strictly.
- iv) The service contract charges should be quoted only for services and travel cost etc. and should not include the cost of any replacement parts/components which shall be arranged by the Institute at its own cost. However, a price list of all spares must be provided to the Institute.
- v) The removed/un serviced spare parts shall be the property of NIPER , Mohali and shall be handed over to Indenter by the service provider alongwith service report.
- vi) In each block of 365 days during the entire service contract period the firm will be responsible to maintain the equipment in good working condition for a period of 328 days (i.e. 90% uptime). The time taken by the Institute in providing to the firm the spare parts shall not count towards the downtime. All the complaints will be attended by the firm within 5 days of the dispatch of the complaint to their office. In case there is delay of more than 5 days in attending to a complaint then the number of days in excess of the permissible response time shall be counted in the downtime. The above said response time of 5 days for attending to a complaint will not be counted in the downtime. In case total downtime exceeds the permissible limit as defined above, the service contract shall be extended by the period in excess of the permissible downtime subject to limit of 30 days in a block of 365 days. However, for the period of the downtime in excess of 30 days in block of 365 days, a fine equivalent of double the daily service contract charges shall be recovered from the firm.
- vii) The replaced parts shall remain the property of the Institute.
- viii) The firm will deposit a security in form of Bank Guarantee equivalent to 50% of the additional value of the Annual service contract towards execution of the service contract and to cover the service contract period of five years. This will be furnished within a period of 15 days after the expiry of the guarantee/warranty period. No Advance payment of AMC shall be made under normal circumstances.
- ix) The firm shall try to repair the equipment at Institute itself. However, the equipment may be taken to their site, on their own expenses if in case it is not possible to repair the same at NIPER, the firm shall take the entire responsibility for the safe custody and transportation of the equipment taken out for repairs till this is handed over to purchaser after repair. Any loss of equipment or its accessories on account of theft, fire or any such reasons shall be the sole risk and responsibility of the firm who will compensate the Institute for such losses at FOB value of the damaged/lost equipment/part including accessories.
- x) During the service contract period the parts/components that may be needing replacement shall be made available by the Institute at their own expenses and all import formalities, payment of custom duty etc., shall be complied with/borne by the Institute.
- xi) All service contract charges will be invoiced thrice in each year. The payment of the invoice will be made in arrears after satisfactory servicing within 30 days of the date of submission of the invoice.
- xii) No price revision will be accepted by the Institute during the entire tenure of the service contract agreement.

<p align="center"><b>Technical Specifications for Nuclear Magnetic Resonance Spectrometer (600 MHz)</b></p> <p><b>01 Nos</b></p>	Compliance of the quoted model	Compliance of alternate model, if any	Remarks
<p><b>1. Magnet, Container, and Spectrometer Frequency:</b></p> <ul style="list-style-type: none"> <li>i) Latest version of High performance 600 MHz NMR spectrometer with highly shielded magnet for the most up-to-date homo and hetero-nuclear multi-dimensional liquid NMR experiments.</li> <li>ii) 5G fringe field: horizontal <math>\leq 1</math> m from centre of the magnet and vertical <math>\leq 2.0</math> m from the centre of the magnet.</li> <li>iii) Field drift <math>\leq 6</math> Hz/hr or better.</li> <li>iv) Liquid Helium hold time: 150 days or more.</li> <li>v) Liquid nitrogen hold time: Around 14 days or more.</li> <li>vi) Liquid Helium level digital meters with alarms.</li> <li>vii) Anti-vibration platform to damp the vibration.</li> <li>viii) High performance cryo- and room temperature shim system for optimal line shape. Minimum nine numbers of cryogen-cooled. State of the art room temperature shims as well as cryo- shims for best line shape including line width and all other related.</li> <li>ix) All support equipments for cryostat (e.g. liquid He and liquid N<sub>2</sub> transfer lines).</li> <li>x) Pneumatic sample load and eject system.</li> <li>xi) Deuterium lock channel should be compatible with gradients and automated shimming hardware.</li> <li>xii) Automated and manual shimming capability with associated accessories (software / hardware)</li> </ul> <p><b>3. Console and Electronics:</b></p> <ul style="list-style-type: none"> <li>xi) Two independent Broad Band RF channels to handle nuclei (such as <sup>1</sup>H, <sup>13</sup>C, <sup>15</sup>N, <sup>19</sup>F, <sup>31</sup>P and other active nuclei) and high performance power transmitters for double resonance liquid state NMR experiments and decoupling.</li> <li>xii) Linear broad band amplifiers with minimum power levels of 100 W for <sup>1</sup>H and 300W or better for X (<sup>13</sup>C, <sup>15</sup>N, <sup>31</sup>P, <sup>19</sup>F and other active nuclei), respectively for double resonance liquid state NMR experiments and decoupling.</li> <li>xiii) Auto-shimming; faster shimming capability.</li> <li>xiv) To perform Gradient spectroscopy including all new gradient pulse program-based experiments with capability to run DOSY and other gradient experiments: Pulsed field gradient (PGF) strength having capacity 30G/cm or higher, , high quality PFG-based solvent suppression.</li> <li>xv) Single/Dual/ Multi receiver capability, digital receiver for NMR signal acquisition, filtering, sampling, multi nuclei acquisition etc.</li> <li>xvi) To perform variable temperature experiments from -100 dec c to +150 dec c.</li> <li>xvii) Analog to digital converter (ADC): 16 Bit</li> <li>xviii) High bandwidth receiver system to connect with host computer, Digital quadrature detection</li> <li>xix) Shaped pulse calibration capabilities and auto implementation in 3D experiments.</li> <li>xx) Frequency, phase and amplitude shaping capabilities with simultaneous switching of the parameters.</li> </ul> <p><b>4. Probes:</b></p> <p>5 mm variable temperature probe for observation of multinuclei with automatic tuning and matching, high S/N ratio.</p> <p><b>Probe specification as below:</b></p> <ul style="list-style-type: none"> <li>A) Sensitivity value for each nuclei of the probe measured using standard samples <ul style="list-style-type: none"> <li><sup>1</sup>H Sensitivity <math>\geq 900:1</math> (0.1% ethyl benzene in the sample tube equivalent to 555 PPT made by Wilmad, one scan).</li> <li><sup>19</sup>F Sensitivity <math>\geq 800:1</math> (0.05 % TFT, one scan)</li> <li><sup>13</sup>C Sensitivity <math>\geq 350:1</math>(10% ethyl benzene in the sample tube equivalent to 555 PPT made by Wilmad, one scan).</li> <li><sup>31</sup>P Sensitivity <math>\geq 250:1</math>(0.0485M TPP, one scan)</li> <li><sup>15</sup>N Sensitivity <math>\geq 40:1</math>(90% formamide, one scan.)</li> </ul> </li> <li>B) Pulse width <sup>1</sup>H <math>\leq 10</math> <math>\mu</math>s and <sup>13</sup>C <math>\leq 12</math> <math>\mu</math>s.</li> <li>C) <sup>1</sup>H line shape <math>\leq 0.6/6/12</math>Hz.</li> <li>D) <sup>1</sup>H resolution <math>\leq 0.6</math> Hz or better.</li> </ul> <p><b>5. Auto Sampler:</b></p> <p>Fully functional auto sampler with capacity of handling 60 or more with auto-inject mode along with 60 spinners.</p>			

<p><b>6. Hardware and Software (Data system):</b></p> <p>a) Hardware: Two latest available workstation with suitable latest operating system with latest upgraded software for 1D &amp; 2D acquisition and processing. One for data processing and another for operation of NMR instrument along with display and licences with original CD. Laser jet multi functional printer.</p> <p>b) <b>Software:</b> Most comprehensive latest HNMR software capable of all up to date heteronuclear multi dimensional NMR experiment including latest experiments for reconstruction of multi dimensional NMR spectra. Package should include all latest pulse sequences for multi dimensional NMR experiments available with the vendor. Licensed software modules should include the following: Acquisition, Processing, plotting, Multiplet Analysis, Deconvolution and Automation. Any software upgrade (pulse sequence and processing) or new software (pulse sequence and processing) that are released during the warranty period should be given to the user free of cost. Software should be provided in DVD/CDs. Multiple licences ( more than 10) to be provided for processing of data.</p> <p><b>7. UPS System</b> Appropriate standard and branded UPS <math>\geq</math> 15 KVA with at least 1 hour back up for the uninterrupted smooth functioning of the entire system.</p> <p><b>8. Compressor</b> 3 HP, oil-free, low-noise level air compressor with dryer and appropriate filters for supply of dry air with appropriate due point for smooth operation of pneumatic unit, auto sampler and variable temperature unit of the spectrometer.</p> <p><b>9. Miscellaneous and accessories:</b></p> <ul style="list-style-type: none"> <li>xv) Installation and making instrument fully functional: Necessary arrangements in the provided specific space for complete installation and making the instrument fully functional should done by vendor.</li> <li>xvi) The power requirement for proper functioning of the NMR instrument with all accessories required for functioning the instrument should be proved by the vendor.</li> <li>xvii) Initial supply of liquid helium and liquid nitrogen for installation.</li> <li>xviii) Standard sample kit of NMR system for acceptance test procedure.</li> <li>xix) NMR tubes 5mm -500 number.</li> <li>xx) NMR tubes 3 mm -100 number.</li> <li>xxi) 20 nos spinners for 5mm tube extra.</li> <li>xxii) 30 Nos spinners for 3mm tube.</li> <li>xxiii) Liquid helium transfer line.</li> <li>xxiv) Liquid nitrogen transfer line.</li> <li>xxv) Tool kit.</li> <li>xxvi) Essential spares parts for magnet / spectrometer.</li> <li>xxvii) Spare fuses and one set of fans.</li> <li>xxviii) Liquid N2 Dewars (four number of 50 lts capacity each )</li> </ul> <p><b>10. Training:</b> Vendor will provide trained man power for the operation of instrument for I year from the date of installation. Onsite training to personnel for smooth operation of the instruments as and when required during the first year of operation.</p> <p><b>11. Service</b> Service problems should be attended within 72 working hours. A competent service engineer of the supplier should make as many visits as are necessary to rectify the fault. Quote must have a compliance report on all the above points. A detailed specification sheet highlighting all above specification must be attached. In case of instrument break down during the shipment, installation or at subsequent time due to faulty design or any other technical failure, the necessary cost for recharging magnet/replacing magnet or any other parts should be borne by the vendor. Vendors are required to arrange for all the cryogenics including liquid Helium and liquid Nitrogen and related accessories required for charging and installation of the magnet.</p> <p><b>12. Special Requirement:</b></p> <p>c. As the NMR instrument is an expensive and advanced equipment, it is mandatory that the facility must be multiple-user specific. Also, it is important that the equipment is stable and run for a long time. Thus it is important for the vendors that they must supply appropriate documents specifying their users in higher academic institutions in India. Appropriate certificates from the users for the last three year for the model quoted must be supplied justifying the stability, ease of operation and maintenance requirement such that we have the option to choose the best system in terms of performance and not mere specifications alone.</p>			
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<p>d. Further, as the instrument is expensive and multi user equipment, One year standard warranty followed by AMC for 5 years is a must and this must be specifically mentioned in the quotation by the vendor/ principal. In case, the vendor provides the warranty, the principal should certify (authenticate). Appropriate documents must be attached along with the quotation in this regard.</p> <p>c. A certificate will be required from the original instrument manufacturer that technical support along with all essential spares will be provided / made available for at least 10 years after the expiry of one year standard warranty period.</p> <p><b>Term and Condition:</b></p> <p>a) Vendor should quote as per specifications. Installation certificate will be issued only after satisfactory working of the instrument (Demo of all the modules) &amp; onsite training</p> <p>b) Vendor should commit to supply helium to keep the superconducting magnet active. In case of magnet quench due to poor supply of liquid helium the necessary cost of recharging or replacing magnet should be borne by the vendor.</p> <p><b>13. Optional</b></p> <p>1. Probe for small volume samples.</p> <p>2. 3 channel upgradation with dual receiver should be possible to be added later. Price quotation for the same should be provided.</p> <p>3. Vendor should quote for AMC price for five years with yearly break up after completion of one year standard warranty and five years AMC.</p> <p>4. Vendor should quote for supply of liquid helium for five years.</p> <p>5. Instrument will be bought on buy back basis. Old 300 MHz non functional NMR is offered as buy back. In that case NIPER will provide room with electrical connections &amp; A/C provisions. Vendor has to remove the old system and will make the room ready for installation. All civil work required has to be done (flooring of half of room to be lowered by one foot, increasing the width of door, new wooden door and aluminum partition) by the vendor.</p>			
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### MANDATE FORM FOR PAYMENT

Sr.No.	Supplier Details	
1	Vendor Name	
2	Father/ Husband Name	
3	DOB	
4	PAN Number	
5	Aadhaar Number	
6	TIN Number	
7	Service Tax No.	
9	Address I	
10	City	
11	Country	

12	State	
13	District	
14	Pin code	
15	Mobile No.	
16	Phone	
17	Email	
18	Bank Name	
19	IFSC Code	
20	Account Number	
21	Others	

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**Bidder(s)/Authorized Signatory (ies)**