



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान तिरुपति

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH TIRUPATI

Transit campus: C/o Sree Rama Engineering College Campus, Rami Reddy Nagar,
Karakambadi Road, Mangalam (B.O), Tirupati - 517 507
Website: www.iisertirupati.ac.in

CLARIFICATION ON TENDER NUMBER: IISERT/PUR/0145/21

ITEM DESCRIPTION- SUPPLY, INSTALLATION AND COMMISSIONING OF CONFOCAL MICRO RAMAN SPECTROMETER

TENDER REFERENCE NUMBER –IISERT/PUR/0145/21.DATED 23/08/2021 FOR SUPPLY, INSTALLATION AND COMMISSIONING OF CONFOCAL MICRO RAMAN SPECTROMETER.

Pre-Bid meeting was held on September 1st, 2021 at 15.30 via Google Meet and minutes of meeting is as under.

At the outset, the Chairman welcomed all the Members and the representative of the Prospective Bidders and briefed in general the scope of the Project and thereafter requested Assistant Registrar (S&P) to brief 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

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 www.iisertirupati.ac.in will remain unchanged. No more correspondence in this regard will be entertained

The meeting ended with vote of thanks to the Chair

DATE: 10.09.2021

Sd/-
Assistant Registrar (S&P)



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ANNEXURE -II

PRE-BID CONFERENCE FOR PROCUREMENT OF SUPPLY, INSTALLATION AND COMMISSIONING OF CONFOCAL MICRO RAMAN SPECTROMETER

TECHNICAL QUERIES AND CLARIFICATION

TENDER NUMBER -: IISERT/PUR/0145/21

DATE: 01.09.2021

| S. No | Query/Clarification Sought | Clarification / Amendment |
|-------|---|---|
| 1. | Existing Tender specifications: Integrated Raman Spectrometer should include research grade lasers, confocal microscope, motorized stage, transfer and filtering optics, an achromatic spectrograph equipped with gratings, multichannel detector. It should have a motorized stage and should be controllable via a computer platform with relevant software. It should be a direct coupled system with no fiber coupling. --- A request was put up by the vendor to amend the above specification | As per suggestions of the technical committee members who have vetted the technical specifications, modification of the existing specification is not possible. |
| 2 | Existing Tender specifications: A large focal length Czerny-Turner type achromatic | The request has been considered and the amended specification stands as follows: |

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| | <p>spectrograph should be equipped with reflective optics and with the following specifications. --A request have been put up to amend the above specifications and make it general by including refractive optics</p> | <p>A large focal length Czerny-Turner type achromatic spectrograph should be equipped with reflective/refractive optics and with the following specifications.</p> |
| 3 | <p>Existing Tender specifications: Raman range: 50 cm⁻¹ - 4000 cm⁻¹ or better --A request was put up by the vendor to amend the above specification</p> | <p>The request has been considered and the amended specification stands as follows: Raman range: 50 cm⁻¹ - 4000 cm⁻¹ (or better) for 532, 633 and 785 nm lasers and 50 cm⁻¹ - 4000 cm⁻¹ (or better) for 405 nm laser.</p> |
| 4 | <p>Existing Tender specifications: Spatial Resolution: Lateral resolution should be better than 0.5 micron and axial resolution typically should be better than 1.5 microns with a 100X objective in the visible range. ---A request was put up by the vendor to specify the laser and objective for which we would like to have lateral resolution of 0.5 micron and axial resolution of 1.5 micron</p> | <p>The request has been considered and the amended specification stands as follows: Spatial Resolution: Lateral resolution should be better than 0.5 micron and axial resolution typically should be better than 1.5 microns with a 100X objective for the visible lasers.</p> |
| 5 | <p>Existing Tender specifications: An adjustable kinematic rejection filter (Notch/Edge) mount allowing fine tuning of the filter operation angle for low frequency cut-off adjustment and easy and quick exchange of excitation wavelength.</p> | <p>The request has been considered and the specification is modified as follows: An adjustable kinematic rejection filter (Notch/Edge) mount allowing fine tuning of the filter operation angle for low frequency cut-off adjustment and easy and quick exchange of excitation wavelength is preferred.</p> |

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| | -- A request was put up by the vendor to amend the above specification | |
| 6 | <p>Existing Tender specifications: Microscope Specifications: A revolver equipped with following plan-achromatic objectives:</p> <ol style="list-style-type: none"> 1. 5X visible, NA = 0.1, WD = 19.6 mm 2. 10X visible, NA = 0.25, WD = 10.6 mm 3. 100X visible, NA = 0.9, WD = 0.21 mm 4. 50X LWD visible objective, NA = 0.50 WD = 10.6 mm <p>--A request was put up by the vendor to amend the above specification</p> | <p>The request has been considered and the specification is modified by removing all working distance values. The amended specification stands as follows:</p> <p>Microscope Specifications: A revolver equipped with following plan-achromatic objectives:</p> <ol style="list-style-type: none"> 1. 5X visible, NA = 0.1 2. 10X visible, NA = 0.25 3. 100X visible, NA = 0.9 4. 50X LWD visible objective, NA = 0.50 |
| 7 | <p>Existing Tender specifications: Confocal coupling optics between the microscope and the spectrometer:</p> <p>Software controlled continuously adjustable confocal pinhole from several microns to 1 mm</p> | <p>The request has been considered and the amended specification stands as follows:</p> <p>Software controlled continuously adjustable confocal pinhole or aperture (slit) from several microns to 1 mm is preferred.</p> |
| 8 | <p>Existing Tender specifications: Motorized XYZ stage to be controlled by software (X = 75 mm; Y = 50 mm or better). XY specifications: repeatability $\leq 1\mu\text{m}$; accuracy $\pm 3\mu\text{m}$; resolution (minimum step size) = 0.1. microns. Z specifications: resolution (minimum step size) = 0.5 micron. Should include positioning joystick, an external controller, software package and Raman autofocus capability. Motorized XYZ stage</p> | <p>No modifications of the existing specifications are required. The existing specifications are the minimum requirement. Anything better than this, would be acceptable</p> |

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| | <p>should come with high-speed Raman. Mapping mode for fast Mapping applications --A request was put up by the vendor to amend the above specification.</p> | |
| 9 | <p>Existing Tender specifications: It should allow the visual control of the optical alignment of the laser from the sample to the detector --A request was put up by the vendor to amend the above specification.</p> | <p>The request has been considered and this point is removed from the list of technical specifications:</p> |
| 10 | <p>Existing Tender specifications: Laser: 405 nm air cooled diode laser with a minimum power of 40 mW. -- A request was put up by the vendor to amend the above specification where the minimum power could be relaxed to a lower value.</p> | <p>No modifications of the existing specifications are required. These existing specifications are the minimum requirement. Anything better than this, would be acceptable</p> |
| 11 | <p>Existing Tender specifications: 532 nm diode laser with minimum 100 mW power -- A request was put up by the vendor to amend the above specification where the minimum power could be relaxed to a lower value.</p> | <p>No modifications of the existing specifications are required. These existing specifications are the minimum requirement. Anything better than this, would be acceptable</p> |
| 12 | <p>Existing Tender specifications: 785 nm air cooled laser diode with minimum output power of 100 mW. -- A request was put up by the vendor to amend the above specification</p> | <p>No modifications of the existing specifications are required. These existing specifications are the minimum specification. Anything better than this, would be acceptable</p> |

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| 13 | <p>Existing Tender specifications: UV-Vis-NIR macro cuvette cell holder Include additional sample holder for measurement of liquid samples in cuvettes of different sizes (1 cm x 1 cm; 1 mm x 1 mm). Cell holder should also allow analysis of material within capillary and NMR tubes.</p> <p>-- A request was put up by the vendor to amend the above specification by removing the NMR tubes.</p> | <p>The request has been considered and the NMR tube holder is removed. The amended specification stands as follows:</p> <p>UV-Vis-NIR macro cuvette cell holder Include additional sample holder for measurement of liquid samples in cuvettes of different sizes (1 cm x 1 cm; 1 mm x 1 mm).</p> |
| 14 | <p>Existing Tender specifications: Suitable UPS (with 5star rating) for 1hour power back up for the instrument and computer should be provided</p> <p>--</p> <p>A request was put up by the vendor to amend the above specification if they can offer UPS locally and can it be a separate INR order.</p> | <p>The request has been considered but the supplied product must have five-star ratings with a minimum warranty of 3 years an should support the power requirement of the machine</p> |
| 15 | <p>Existing Tender specifications: Warranty: Comprehensive warranty for 3 years (from the date of installation).</p> <p>-- A request was put up by the vendor to amend the above specification with an exception for the lasers</p> | <p>The request has been considered. The comprehensive warranty of the equipment will be for 3 years and that of the lasers for one year.</p> |
| 16 | <p>Existing Tender specifications:</p> <p>Accessories:</p> <p>Filters: Should include rejection Notch filters for 532 nm, 633 nm and 785 nm (100 cm-1); ULF filters for 532 nm, 632 nm and 785 nm (10 cm-1);</p> | <p>These are accessories and the procurement would mainly depend on the prices quoted for each of these items and availability of funds.</p> |

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| | edge filters for 325, 405, 532, 633 and 785 nm (100-200 cm ⁻¹) -- A request was put up by the vendor to amend/relax the above specification to | |
| 17 | Existing Tender specifications: Accessories: AFM and related accessories that can be coupled to the spectrometer -- A request was put up by the vendors to provide further details about the technical specifications of the AFM | The quoted AFM should have a configuration that can be readily coupled with the confocal Raman spectrometer. It should allow imaging of the surface in both, Contact Mode and Non-contact Mode. But, as these are accessories, so the procurement would mainly depend on the prices quoted for each of these items and availability of funds. |



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ANNEXURE -III

PRE-BID CONFERENCE FOR SUPPLY, INSTALLATION AND COMMISSIONING OF CONFOCAL MICRO RAMAN SPECTROMETER

COMMERCIAL QUERIES AND CLARIFICATION

TENDER NUMBER -: IISERT/PUR/0145/21

DATE : 01/09/2021

| S.No | Query/Clarification Sought | Clarification / Amendment |
|------|----------------------------|---------------------------|
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| | -----NIL----- | -----NIL----- |
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