



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान तिरुपति

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH TIRUPATI

onsit 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 12/02/2022 for Supply, Installation and Commissioning of Confocal Micro Raman Spectrometer.

Pre-Bid meeting was held on February 18th, 2022 at 15.30 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 / additons / 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: 28.02.2022

**Sd/-
Deputy 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: 28.02.2022

S. No	Query/Clarification Sought	Clarification / Amendment
1.	<p>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.</p> <p>--- A request was put up by the vendor to amend the above specification</p>	<p>As per suggestions of the technical committee members who have vetted the technical specifications, modification of the existing specification is not possible.</p>
2	<p>Existing Tender specifications: A large focal length Czerny-Turner type achromatic spectrograph should be equipped with reflective/refractive optics and with the following specifications</p> <p>--A request was put forward to amend the above</p>	<p>The quoted specification is a general one and no further modification is required.</p>



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	specifications	
3	<p>Existing Tender specifications: b. Raman range: 50 cm^{-1} - 4000 cm^{-1} (or better) for 532, 633 and 785 nm lasers and 150 cm^{-1} - 4000 cm^{-1} (or better) for 405 nm laser.</p> <p>--A request was put up by the vendor to amend the range of 405 nm laser.</p>	No modifications to the existing specifications are required. These existing specifications are the minimum requirement. Anything better would be acceptable.
4	<p>Existing Tender specifications: Gratings – holographic 2400 gr/mm (for UV), 1800 and 600 gr/mm mounted on a motorized turret driven by software, to vary spectral resolution. The gratings should be quickly and easily interchangeable without realignment.</p> <p>----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 1.5micron</p>	<p>The request has been considered and the amended specification stands as follows:</p> <p>Gratings – holographic 2400 gr/mm (for 405 nm laser), 1800, 1200 and 600 gr/mm for other lasers, mounted on a motorized turret driven by software, to vary spectral resolution. The gratings should be quickly and easily interchangeable without realignment.</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>-- 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:</p> <p>A kinematic rejection filter (Edge filter) mount allowing fine tuning of the filter operation angle for low frequency cut-off adjustment and easy and quick exchange of excitation wavelength.</p>
6	<p>Existing Tender specifications: Provision of a removable bottom stage</p> <p>--A request was put up by the vendor to amend the above point.</p>	<p>The request has been considered and the amended specification stands as follows:</p> <p>Provision of a removable bottom stage or equivalent arrangement.</p>



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7	<p>Existing Tender specifications: c. A revolver equipped with following plan-achromatic objectives: 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 --A request was put up by the vendor to change the working distances.</p>	<p>There are no working distances mentioned and hence no modifications are made to the existing specifications.</p>
8	<p>Existing Tender specifications: Coupling optics to focus the Raman beam on the entrance slit of the spectrograph equipped with a shutter. --A request was put up by the vendor to remove the above point.</p>	<p>The request has been considered and the amended specification stands as follows: Software controlled continuously adjustable confocal pinhole or aperture (slit) from several microns to 1 mm is preferred.</p>
9	<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 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>	<p>No modifications to the existing specifications are required. This existing specification are the minimum requirements. Anything better would be acceptable.</p>



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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 to the existing specifications are required. The existing specifications are the minimum requirement. Anything better would be acceptable.</p>
11	<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 where the minimum power could be increased.</p>	<p>No modifications to the existing specifications are required. These existing specifications are the minimum requirement. Anything better than would be acceptable.</p>
12	<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). -- 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 as follows. UV-Vis-NIR macro cuvette cell holder: Include additional sample holder or accessories for measurement of liquid samples. The sample holder should support cuvettes of different sizes listed in the document (point 14 in the technical specifications).</p>
13	<p>Existing Tender specifications: Software should be compatible with Windows based operating system and should be supplied with computer dongle permitting the control of the instrument, data acquisition, and data manipulation including Raman mapping and storage option. The software should have advanced chemo-metric and Macro programming capabilities. ---- A request was put up by the vendor to amend the above specification.</p>	<p>This point has been explained in detail and no changes are made to the specification.</p>



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14	Existing Tender specifications: Suitable UPS (with 5-star rating) for 1hour power back up for the instrument and computer should be provided -- A request was put up by the vendor for further clarification on this point.	The request has been considered but the supplied product must have five-star ratings with a minimum warranty of 3 years and should support the power requirement of the machine.
15	Existing Tender specifications: Cuvettes: <ul style="list-style-type: none">• 10 x 10 mm path length (5 Nos) and 10 x 2 mm (2 Nos),• 10 x 1 mm path length (5 nos),• 3x3 mm path length, vol 45 l, center height 8.5-20 mm; (2 No's)• 10 x 1 mm path length, vol 110 l, center height 8.5-20 mm; (2 No's)• Compatible solid sample holders -- A clarification was requested on the material of the cuvette.	To clarify the point, the following change is made to the specification Fully quartz cuvettes: <ul style="list-style-type: none">• 10 x 10 mm path length (5 Nos) and 10 x 2 mm (2 Nos),• 10 x 1 mm path length (5 Nos),• 3 x 3 mm path length, vol 45 l, center height 8.5-20 mm; (2 Nos)• 10 x 1 mm path length, vol 110 l, center height 8.5-20 mm; (2 Nos)• Compatible solid sample holders.
16	Existing Tender specifications: If required, free uninstallation from transit campus and reinstallation in the permanent campus. -- A clarification was sought on this point by the vendor.	To clarify the point, the specification is modified as follows If required, free uninstallation from transit campus and reinstallation in the permanent campus (or between different locations in the permanent campus) within a period of five years.
17	Existing Tender specifications: Warranty: Comprehensive warranty for 3 years (from the date of installation). -- A request was put up by two vendors to amend the above specification with an exception for the lasers	The request has been considered and the specification is modified as follows. Comprehensive warranty for 3 years for the equipment (from the date of installation) and a warranty of 1 year for the lasers.
18	Existing Tender specifications: Accessories (this should be quoted separately)	The following changes are made to clarify the point



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	-- A clarification was sought on this point by the vendors.	Optional items and accessories (should be quoted separately and will not be taken into consideration for financial comparison).
19	Existing Tender specifications: Accessories: 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}); edge filters for 325, 405, 532, 633 and 785 nm ($100\text{-}200\text{ cm}^{-1}$) -- A request was put up by the vendor to amend/relax the above specification.	No changes to the specifications made. These are accessories and the procurement would mainly depend on the prices quoted for each of these items and availability of funds.
20	Existing Tender specifications: Option for micro-photoluminescence measurements. -- A clarification was sought on this point by the vendors.	The following changes are made to clarify the point Option for micro-photoluminescence measurements in the visible range.
21	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 following changes are made to clarify the point 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 OF CONFOCAL MICRO RAMAN SPECTROMETER

COMMERCIAL QUERIES AND CLARIFICATION

TENDER NUMBER -: IISERT/PUR/0145/21

DATE: 23.02.2022

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