

## Appendix-I

Sr.No.	Detailed Description of the Item	Qty.
1.	<p data-bbox="318 331 1287 365"><b>Specifications for Fourier Transform Infrared (FTIR) spectrometer:</b></p> <ul style="list-style-type: none"> <li data-bbox="362 421 1287 533">• Universal Sampling modules should be available for the analysis of solid, liquids, &amp; powder samples. Liquid sample cell should be included in system.</li> <li data-bbox="362 555 1287 622">• The equipment should have <b>wavenumber range of: 7600-350 <math>cm^{-1}</math> or better.</b></li> <li data-bbox="362 645 1287 757">• FTIR system must have <b>Signal to Noise Ratio of 47,000: 1 or better, peak-peak, 1 minute</b> (at 4 <math>cm^{-1}</math> resolution) <b>for a range of at least 100 <math>cm^{-1}</math>.</b></li> <li data-bbox="362 779 1287 891">• Standard <b>resolution should be 0.5 <math>cm^{-1}</math></b> or better along with variable resolution. The <b>wavelength precision should be 0.01 <math>cm^{-1}</math></b> or better.</li> <li data-bbox="362 913 1287 981">• <b>Optics and interferometers with good stability</b> for operation under <b>normal conditions.</b></li> <li data-bbox="362 1003 1287 1037">• Interferometer must have KBr beam splitter for better performance.</li> <li data-bbox="362 1059 1287 1093">• Detector should be <b>DTGS/DLaTGS or better.</b></li> <li data-bbox="362 1115 1287 1182">• Source intensity should be consistent throughout its life and laser should be solid state or better.</li> <li data-bbox="362 1205 1287 1317">• <b>3 Years warranty on full system (including source, laser, interferometer, detector, diamond ATR etc) of FTIR should be quoted.</b> 3 years additional extended warranty should be also quoted.</li> <li data-bbox="362 1339 1287 1406">• Spectrometer should be controlled with computer based software compatible with Windows 7 or latest Window version.</li> <li data-bbox="362 1429 1287 1496">• Humidity and moisture protection should be quoted for FTIR set-up with at least 3 years of working warranty.</li> <li data-bbox="362 1518 1287 1585">• <b>Pure Monolithic Diamond ATR</b> should be quoted for the routine sample analysis ranging from pH 1-14.</li> <li data-bbox="362 1608 1287 1675">• Automatic background correction standard for CO<sub>2</sub> and H<sub>2</sub>O should be quoted.</li> <li data-bbox="362 1697 1287 1765">• FTIR system should be compatible and <b>upgradable for temperature dependent and FTIR microscopy study</b> in future.</li> <li data-bbox="362 1787 1287 1899">• All the required parts for proper running the FTIR system like power cord, computer and computer interface, software etc should be included with FTIR system.</li> </ul>	01 Unit

	<ul style="list-style-type: none"> <li>• Supplier should provide the user list from IITs/NITs/IISER/CSIR labs or equivalent premier institutions.</li> <li>• The bidder should provide compliance point by point with technical proof.</li> <li>• The bidder organization must have ISO certification and also provide the documentary proof.</li> </ul>	
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