

## MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY, BATHINDA

Name of Item:		Purchase of Fourier Transfer Infrared (FTIR) Spectrophotometer with Attenuated Total Reflectance (ATR) for Applied Chemistry Deptt.	
Name of Agency			
Sr. No.	Description of Item	Qty.	Unit
1	<p><b>FTIR Specrophotometer:-Technical Specification for a FTIR instrument with ATR :-</b></p> <ol style="list-style-type: none"> <li>1. Scan range: minimum 8000-350cm-1.</li> <li>2. Temperature-stabilized room temperature DTGS detector</li> <li>3. Long-life sealed and desiccated optical unit.</li> <li>4. The source should have Long-life; user replaceable</li> <li>5. A real-time atmospheric vapour correction (AVC) or a comparable utility must be available. This should not require the collection of reference or calibration spectra</li> <li>6. The system should at least have a signal to noise ratio of &gt; 9,000:1 peak-peak, 5 second scan and &gt; 32,000:1 peak-peak, 1 minute scan.</li> <li>7. System should have variable Spectral resolution with minimum of 0.5 cm-1</li> <li>8. Wavelength accuracy at least 0.1 cm-1 at 3000 cm-1 is essential</li> <li>9. Wavelength precision of at least 0.01 cm-1 at 3000 cm-1</li> <li>10. Standard KBr pellet holder.</li> <li>11. The instrument must use USB, wireless and TCP/IP interface allows direct connection with LAN</li> <li>12. The instrument should be offered with rechargeable battery pack for remote operation, chargeable from mains or car battery and with power pack to serve as an Uninterrupted Power Supply (UPS) for 30 mins.</li> <li>13. Accessories are automatically detected as soon as they are locked into the sampling area. Instrument parameters optimized for the installed accessory. Accessories information stored with spectral data.</li> </ol>	1	Pc.

14. Along with the main instrument, quotation of the following accessories are requested.

- i. Two air-tight demountable cells for measurement of liquid samples with adjustable pathlength
- ii. KBr rectangular Windows (Pack of 4) for item (i)
- iii. NaCl rectangular windows (Pack of 4) for item (i)
- iv. Assorted Rectangular Spacers(pack of 10) of varying thickness for item (i)
- vi. ATR accessory with diamond crystal with top plate and pressure arm.
- v. Pellet Press, KBr Powder, pellet with holder and die and hydraulic press.
- vi. Latest Computer Branded, Laser Printer and 2KV<sub>a</sub> on-line UPS with 1 hr backup

15. Software:

- i. A single software platform to incorporate all of the functions required for infrared analyses; instrument control, data manipulation and analysis, and flexible report utilities.
- ii. A suite of optional software packages to provide advanced capabilities or functions designed for specific application areas. The software should have feature to enable the user real time update of spectral information plus results to provide faster feedback of information data status
- iii Software should be compatible with window 7 and higher versions.
- iv. Software should allow overlay of multiple data sets.

Include: All kinds of spares for maintaining the system.

Include: Warranty and after sales services