



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY**  
**MATERIALS MANAGEMENT DIVISION**  
 Powai, Mumbai 400076.

**Reference (PR No. 100021906) RFx No.6100000893**

**Technical Specifications of UV-Vis Spectrophotometer**

**Section: A**

Sr. No.	Parameter	Description
1	Wavelength Range	At least 190- 1100 nm
2	Source	Deuterium and Tungsten or Xenon flash lamp.  Lamps must have three years warranty or three set of lamps must be supplied with the system.
3	Monochromator	1200lines/mm, Czerny- Turner
4	Detector	Si diodes/ PMT detector for  Sample and Reference
5	Maximum Slew Rate	8000 nm/min – 20000 nm/min
6	Photometric System	True Double Beam with sample and reference cuvette holder.
7	Photometric Range	-4 to +4
8	Absorbance Range	± 4 A
9	Stray Light	At 220 nm (NaI) < 0.05 %T
		At 340 nm (NaNO <sub>2</sub> ) < 0.05 %T
		At 200 nm (KCl) <1 %T
10	Spectral Bandwidth	1.0 nm
11	Data Interval	0.1, 0.5, 1, 2 nm
12	Wavelength accuracy	± 0.1 nm
13	Wavelength reproducibility	± 0.1 nm
14	Photometric accuracy	± 0.004 A
15	Photometric reproducibility	< 0.001 A
16	Photometric drift	<0.0005 A/hour



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17	Photometric noise	< 0.00015 A
18	Scan speed	Variable 1 to 3000 nm/min
19	Interface	USB Connectivity
20	Cuvettes	3.5 ml 1 set
21	Environmental Requirement	Temperature: 15- 35° C and Humidity: 30-80% Non- condensing
22	Software	<p>System compatible original Licensed software should be quoted with the following capabilities: -</p> <p>The software should measure Absorbance, Transmittance and Reflectance at the full or selected.</p> <p>Wavelength with real-time spectral displays and live instrument and accessory status bar.</p> <p>Software should have facility to export data to Clip board, CSV file, Excel file, BMP file, ASCII file, JCAMP file or any one of these similar format Zoom In / Out, Add / Edit Labels.</p> <p>Software should have facility for fully integrated Scan, Kinetic, and Wavelength program data collection mode.</p>
23	Accessory	Advanced transmission accessory
24	Accessory features	Must have SMART accessory automation, which automatically recognizes motorized accessories and displays the appropriate software functionality
25	System Slew Speed:	>30,000nm/min or better



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26	Sampling Compartment	Sample compartment must have purging port.
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**Section: B**

1.	Local Supply	<ol style="list-style-type: none"><li>1. 2 KVA UPS with 30 minutes' battery backup as per requirement</li><li>2. Branded PC with 4GB, 500 GB HDD, Flat Screen Monitor, Optical Mouse, pre-loaded Windows be quoted along with the system.</li></ol>
2.	Accessories	<ol style="list-style-type: none"><li>1. All accessories for the proper operation of the instrument should be included as standard supply.</li><li>2. Powder holder should be attached for analysis of solid sample</li><li>3. Peltier Control accessory 6 Cell Should be attached</li><li>4. Multi-Cell holder can be attached in future</li><li>5. The Autosampler accessory can be attached.</li></ol>
3.	Terms and Conditions	<ol style="list-style-type: none"><li>1. System performance should be demonstrated with necessary standards and calibration kits which will be provided by the vendor as part of standard delivery.</li><li>2. All the system components supplied, should have warranty for three years from date of installations (except mentioned earlier) and 2 years AMC after that including all labour cost. Payment of spare parts if necessary will be made on as and when required basis.</li><li>3. Warranty should include preventive maintenance kit, calibration kit.</li><li>4. No conditional warranty will be accepted.</li><li>5. Basic training for a period of one week after installation &amp; commissioning of the equipment to technical personnel to be provided at our site.</li><li>6. Good technical support should be provided after the installation of the instrument and the service engineer should be able to attend unlimited breakdown calls and should visit the installation site within 24 hours without fail.</li></ol>



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		<ol style="list-style-type: none"><li>7. Service support should be available for 6 days a week.</li><li>8. Training on troubleshooting the issues associated with instrumentation or application should be provided free of cost whenever required by the user.</li><li>9. Manufacturer should provide the service support details in Mumbai and India.</li><li>10. Details of the service engineers and application specialists should be provided along with their experience on these kind of systems.</li><li>11. Details of the users (name, phone number and email ID) in India for the quoted instrument in the bid should be provided.</li><li>12. Instrument performance, quality of service and application support certificates from at least three existing users should be provided.</li><li>13. Maximum educational discounts should be applied.</li><li>14. The delivery period should be specifically stated. Earlier delivery may be preferred.</li><li>15. The vendor has supplied the same or similar instruments to IITs, NITs, CSIR Labs or similar important institutes.</li></ol> <p><b>Note: 1) We may provide unknown samples to the vendors for analysis on the quoted models to verify their claims on technical specifications and may ask for a presentation, if required, and reserve the right to reject any or all quotations based on the results.</b></p> <p><b>2) Submit a technical brochure and a point by point compliance statement with your quotation.</b></p>
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Best Regards,