Technical specifications of UV-Vis-NIR Spectrometer

I	Bidder Eligibility Condition	Comply /Not Comply	Ref. Page No.
1	The bidder/OEM should have supplied at least 3 similar items to IITs, NITs, IISERs, CSIR Labs or other Govt. organizations and Industry in the last 5 years, PO copies or installation certificates along with contact details of end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers will be part of technical evaluation.		

The system must have extremely little stray light and ratio recording that is capable of operating in transmission, reflection, and absorption modes.

II	System Parameters	Specifications	Comply / Not Comply	Ref. Page No.
1	Wavelength a. Range required b. Accuracy c. Reproducibility	 175 - 3200 nm or better ± 0.06 nm (UV-Visible) or better ±0.28 nm (Near IR) or better ± 0.008 nm (UV-Visible) or better ±0.02 nm (Near IR) or better		
2	Spectral Bandwidth	0.05–5.00 nm (UV-Visible) or better 0.2–20 nm (Near IR) or better		
3	Resolution	< 0.08 nm (UV-Visible) or better <0.5 nm (Near IR) or better		
4	Grating	1400 lines/mm blazed at 240 nm (UV-Vis) 300 lines/mm blazed at 1100 nm (Near IR) or better		
5	Photometric a. Range	 7.5 A or better (UV-VIS) 5.5 A or better (Near IR)		

	b. Accuracy c. Noise	≤ 0.003 NIST filters 0.5 A ≤0.002 NIST filters 1 A 0.0005 A @ 2 A and 500 nm 0.0002 A @ 2 A and 1500 nm		
6	Detector	Appropriate detectors range from 175-3200 nm		
7	Stray light	<0.00006% of transmittance @220 nm NaI ASTM method <0.0004% of transmittance @ 2365 nm CHCl3 1 cm path length		
8	Detectors and its optics a. Integrating sphere (200-2500nm)	150 mm diameter integrating sphere with PMT and InGaAs detectors. Special sample mount for measurement of diffuse reflectance/ diffuse transmittance of solid, liquids, thin films and powder Jaw style center holder & other holders for holding diamonds Beam condenser for both transmittance and reflection mode Small spot accessory kit for 150 mm integrating sphere: Lens kit for reducing beam size to the transmittance, to the center mount, and to the diffuse reflectance position. Calibrated standard for integrating Sphere		

	b. Transmittance measurement without integrating sphere c. Low and high temperature mount or Praying matins	To handle diamond samples in the transmittance mode a sample holder, a beam condenser for the transmittance mode, PMT and InGaAs detectors to span the range from 175 to 3300 nm are required. Temperature ranges from -150°C to 600°C to be quoted along with the temperature controller, vacuum pump and necessary parts required for smooth operation.		
9	Software	Data acquisition modes for spectral, kinetic, and photometric data, also color value (Lab) and color difference measurement		
10	Computer	Windows 10 with 8 GB RAM, 1TB hard disc or better		
11	Warranty	Three-years on all components & subcomponent should be provided to the entire tender configuration.		

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the Above points with document proof as required. Failing which bidders will be technically disqualified)