INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

MATERIALS MANAGEMENT DIVISION

Powai, Mumbai - 400076

PR : 1000017310

Rfx : 6100000665

Technical Specifications for Research Grade Fluorescence Spectrophotometer:	
Electrical Requirements	Input 220 - 240 VAC, 50 - 60 Hz; Power plugs and cables should be included
Light source	High stability and long service- life pulsed Xenon flash lamp (with room-light immunity/reduced photodegradation/bleaching of samples)
Gain	should be adjustable manually or automatically through software
Monochromator and gratings (excitation & emission)	Czerny-Turner monochromators, 1200 l/mm grating, blaze wavelength-370 nm (excitation), blaze wavelength-440 nm (emission)
Data collection modes	Fluorescence, Phosphorescence, Chemiluminescence and Bio-luminescence modes should be accessible for analysis of biochemical liquid samples
Detector(s)	High performance PMT detectors with spectral range 200-900nm. Reference Detector: Photodiode detector should be provided for stability
Spectral bandwidths (excitation and emission)	Range 1-20 nm
Wavelength accuracy	should be atleast +/- 0.5 nm
Wavelength reproducibility	should be atleast +/- 0.2 nm
Maximum wavelength scan speed	should be atleast 24000 nm/min.
Signal-to-noise (measured for the Raman Band of Water, with 350 nm excitation and excitation and emission slits 10 nm)	should be atleast 750:1 RMS
Excitation/emission filters, shutter, open beam position	should be software selectable

Instrument and Software inbuilt capabilities	a. scanning (including 3D spectral scan) b. wavelength reads c. kinetics d. lifetimes e. concentration determining functionality f. Validation
Software	Atleast 5 copies should be included, Programmable routines should be possible
Desktop PC with installed software for controlling instrument and accessories, and Microsoft windows and Office software	Should be included
Data format	Data should be exportable in csv format and analyzable in excel and Origin softwares
Accessories	
	All accessories for variable temperature-controlled measurements (0–95 °C, ± 0.1 °C reproducible temperature control) should be included in the quotation. Either Peltier thermostatted cell holder, single cell peltier temperature controller and water circulation pump (if required) Or water bath controlled variable temperature accessory with compatible cell holder, connection ports and circulating and refrigerated water bath
	Manual polarizer accessory for polarization and anisotropy measurements in the wavelength range 275 to 750 nm, including angle selections 0°, 90°, 55° (magic angle), and 35°, capable of performing polarization-dependent wavelength scans and single point reads, compatible with ambient, Peltier, and water thermostatted single and multicell holder should be included in the quotation
	Option to upgrade with Single cell/4 multi cell Peltier Holder, microplate reader

Terms and Conditions:

1. All equipment must be compatible with Indian electrical standards and codes.

2. The supplier must provide detailed literature and published specifications of the quoted product.

3. Material should not be used or refurbished.

4. The supplier must have similar systems operational world-wide and at least five such systems installed in reputed Govt. Institutions/Research Laboratories in last 3-5 years.

5. The suppliers should have proven record of executing a similar order in India and provide a list of their clients including their official contact information. Institute could contact them for referee reports.

6. Minimum 1(one) year warranty from the date of installation and commissioning.

7. The supplier must be able to provide technical support as and when required.