

Quotations are invited from reputed firms for the following item. The quotations are to be submitted on or before 25 November 2017 (4 pm) to Prof. D K Das, Department of Chemistry, Gauhati University, Guwahati, 781 014, Mobile No. 9101726585, Email diganta_chem@gauhati.ac.in.

1. Fluorescence Spectrophotometer

Specifications to be considered while submitting the quotation are-

Specification of Microprocessor Based PC Controlled Fluorescence Spectrophotometer

- **Microprocessor controlled Fluorescence spectrophotometer must be ideal for 3-D measurement.**
- System should be satisfied precision machining technology for bright optics and high diffraction efficiency.
- System must have double mechanically ruled stigmatic concave diffraction grating for excitation and one is for fluorescent light side.
- Should have automatic Pre-scan and shutter controlling function for optimizing of measurement and also deterioration of unknown sample.
- Expanded measuring time range enabling measurement of long-lasting phosphorescence.
- System should be capable to measurement of intermolecular activities like FRET & BRET .and sample should be identified by comparison of three-dimensional fluorescence spectra.
- Should be capable of measuring the entire wavelength range within 1 second.
- System software must be capable of addressing the FDA's 21 CFR Part 11 regulations, CE certified.
- System should have provision for Quantum Yield Measurement.
- System should have provision for up gradation of fluorescence fingerprinting measuring.
- **Measurement techniques should be Fluorescence, Phosphorescence, Luminescence, 3 dimensional time scan measurement with contour potting-fluorescence/ Phosphorescence, bird's eye view etc.**
- Spectral Range must be 200-750 nm, 0-order light.
- Spectral Bandwidth should be 1 to 19 nm or better (Both excitation and emission).
- System should have higher sensitivity with S/N 15000:1 or better (RMS) using Raman band of water S/N 800 or better (Peak to Peak), Excitation wavelength 350nm, bandwidth 5 nm, response 2s.
- Light source should be 150 W Xenon flash lamp with self-deozonating lamp house reduces photobleaching of samples.

- Detector must be High Performance Photomultiplier Tube with variable voltage (R928F) and 6th order dynamic range important for the analysis of unknown samples
- Monochromator should have stigmatic grating with blazed wavelength: Excitation side 300nm, Emission side 400nm
- Auto Gain should be possible to measure up to 6 digit concentration values or better.
- Fluorescence/phosphorescence measurement mode Time scan should have first to fourth order differentiation with area calculation and smoothing (Minimum data interval should be 1.0ms).
- Wavelength Scan speed & drive speed must be Up to 60000 nm/min preferably.
- Wavelength Accuracy should be ± 1 nm or less.
- Resolution 1.0 nm.
- Response should be from 0 to 98%.
- Photometric value range should be -9999 to 9999; 0.002 to 4 s
- Standard Software should have program for controlling the instrument & its accessories. 3-dimensional time scan measurement and Data processing features such as quantitative analysis, cumulative data averaging, first to fourth order differentiation, statistic calculation, wavelength scan measurement, time based measurement such as phosphorescence life time, 3-D measurements, Data export to Microsoft Excel etc.

Equipment should be supplied with:-

- A PC controlled FL solution software to run the system
- Polarizer accessories UV-VIS Wavelength range 260 to 700 nm
- Solid sample Holder Optimized for the measurement of solid samples, powder samples, or highly concentrated solutions. It is designed to prevent the specular reflection from the sample surface from entering the emission monochromator. Includes a powder cell. Sample thickness is 13 mm max.
- Water circulator controlled Thermo Stated Cell Holder.
- PC to run the spectrophotometer.
- AMC for at least three years.

All the above specifications should be mentioned in printed literature of manufacturer. Quoted company must have factory trained experienced engineer