

## **TECHNICAL SPECIFICATION FOR SPECTROFLUOROPHOTOMETER**

### **Principle:**

Computer controlled Spectrofluorophotometer with the capability of measuring Fluorescence, Phosphorescence or Chemiluminescence and Bioluminescence. Spectrofluorophotometer should be provided with Quantum yield measurement, Time resolved luminescence (short phosphorescence decay) measurement as a standard.

### **Source:**

Pulsed xenon flash lamp. Delay (td) and gate time (tg) can be varied to measure phosphorescence. Source can be turned off for measuring chemiluminescence and bioluminescence.

### **Monochromator:**

Excitation 200 – 7500 nm with zero order selectable, Emission : 200-850 nm or better. Pulse rate, delay and gate times can be varied.

### **Polarizer:**

Excitation and Emission Polarizers consisting of 2 filter wheels, each with horizontal and vertical polarizer elements should be given as standard in instrument.

**Wavelength Accuracy:**  $\pm 2$  nm or better

**Wavelength reproducibility:**  $\pm 0.8$  nm or better

**Bandwidth:** excitation and emission slit width should be selected in 0.1 nm increment. Excitation and emission slit width should be variable as 3-12 & 3-18 nm respectively

**Emission filters:** Instrument must have at least five cut-off filters, a shutter and an attenuator.

**Sensitivity:** Signal to noise ratio 750:1 or higher, Raman band of water peak-to-peak . Baseline SNR should be 2500:1 or better

**Software:** Windows based software with ability of displaying spectral and time drive data should be standard with instrument. Routines should be available for performing mathematical calculations on stored data. These include arithmetic functions, smoothing, 1-4<sup>th</sup> order derivatives, area, peak, normalization, merge, difference, interpolate and least squares fit. A wavelength program should be available for storing up to 15 pairs of excitation and emission wavelengths with variable integration and cycle times. Specific applications programs should be provided for determining phosphorescence decay, polarization spectra, intracellular biochemistry programs and simple quantitation. Custom configured programming should be standard with some specimen programs.

**Warranty :** 1 year from date of installation

### **Accessories required:**

1. A pair of Quartz cell for liquid samples (3.5 ml each)
2. Suitable computer with original software , 19 inch screen, DVD writer
3. Accessory for solids and powder analysis