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***Closing Date:14/11/2011***

**Ref. No. AK/BSBE/2011-12/04**

**Subject: Request for submission of quotation for Spectrofluorometer.**

Please send a sealed quotation for Spectrofluorometer for our laboratory at Department of Biological Sciences and Bioengineering, IIT Kanpur with specification and requirement as given in the attached sheet. The quotations should include taxes, warranty, educational discounts if any, freight and delivery. The quotation should reach our office on or before 14.11.2011.

Thanking You,

Sincerely,

(Ashok Kumar)

Associate Professor

Dept. of BSBE, IIT Kanpur

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## SPECIFICATIONS OF SPECTROFLUOROMETER

1. A Spectral scanning multimode reader including fluorescence intensity (top/bottom reading), time-resolved fluorescence (TRF), photometric and luminometric detection technologies and supports endpoint, kinetic and spectral scanning measurements in all modes.
2. Quadruple monochromators i.e. dual excitation monochromators and dual emission monochromators for fluorescence applications and double monochromators for photometric (UV and Vis) measurement.
3. A reference channel detector to compensate for variability in the Xenon lamp from flash to flash with selectable optical response compensation system. When used, the effects of relative variations in the electric response of the equipment are eliminated from the measurement
4. Automatic PMT gain setting selection with calibration system to obtain single consistent dynamic measurement.
5. Reads plate formats of 6- to 1536-wells in fluorescence intensity, TRF and luminometry and 6- to 384-well plates in absorbance mode.
6. System should be compatible with  $\mu$ Drop Plate for the Quick and easy Low volume measurement of samples down to 2 $\mu$ l up to 16 sample spots (Volume range 2-6  $\mu$ l) and with an eight channel pipette. Standard cuvette measurement possible.
7. Instrument reads plates with and without plate lids and has on-board pathlength correction for direct quantitation of e.g. nucleic acids and proteins.
8. Photometric Operational Range: 200 – 1000 nm with linear operational range 0-4Abs or above at 450 nm,  $\pm 2\%$  (96-well plate) and 0-3Abs at 450 nm,  $\pm 2\%$  (384-well plate), Accuracy:  $\pm 2\%$  or 0.003 Abs, whichever is greater, at 200-399 nm (0-2Abs),  $\pm 1\%$  or 0.003 Abs, whichever is greater, at 400-1000 nm (0-3Abs) SD<0.001 Abs or CV<0.5%, whichever is greater, at 450 nm (0-3 Abs).
9. Fluorometric Range: Excitation from 200-1000 nm and emission from 270-840 nm, support protein UV fluorescence assays, Selectable excitation bandwidths of 5 and 12 nm and emission bandwidth of 12 nm, intensity sensitivity of <0.4 fmol fluorescein with 384 well black plate and top reading.
10. Should have upgradeable Luminometry: Range: 360 -670 nm and with scanning optics 270-840 nm, sensitivity of <7 amol ATP/well with 384 well white plate using flash ATP reaction. Should have Filter mode for assays requiring wavelength separation and excellent sensitivity, e.g. BRET and multiplexing assays and Monochromator mode for the spectral scanning assays.

11. Spectral scanning speed <2s/well, 400-500 nm, 1 flash, 2 nm steps and On-board incubator must function by preventing condensation on a microplate lid to enable reading through the lid even during long kinetic assays (at least 24 hours).
12. Up to three optional on-board dispensers. Simultaneous dispensing and measurement enables assays such as,  $\text{Ca}^{2+}$  flux measurements and fast kinetic assays which should be equipped with automatic dispensing head position sensor recognizing dispenser head positions.
13. Volume check, software controls dispensing volumes in each well, one can not dispense bigger volumes that will fit in the well.
14. It must possible to run backups of all data. It must be possible to restore back up data (in case of hardware failure of original computer).