Notice Inviting quotations

Sealed quotations in separate envelopes of technical and commercial bid kept in one sealed outer envelope are invited for upgradation of High performance Liquid Chromatography (Existing Binary HPLC to Quaternary System) as per specifications given below. Your sealed quotation should reach latest by 3.30 P.M. on 8.02.13 to the Head, Centre for Biomedical Engineering, Indian Institute of Technology, Delhi (IIT Delhi), Hauz Khas, New Delhi-110016 attention Dr. Veena Koul. Your quotation should be super-scribed “Quotation for Upgradation of existing High Performance Liquid Chromatography.

Technical Specifications for Upgradation of High Performance Liquid Chromatography.

**Binary Pump**

Flow rate 0.001 to 10.000 mL/min for each pump.
Flow precision: 0.1% RSD
Flow accuracy: ±1%
Max operating pressure: 6000psi
Compressibility compensation: Programmable
Plunger guiding system: Floating, self aligning mount
Flow calibration: Programmable.
Operating pressure limits: Programmable high and low pressure limits, user selectable in psi, bar, kPa.

**Column Heater**

Workable temperature range - Ambient to 80ºC.

**Refractive Index Detector**

Measurement range: 7.0x10⁻⁹ to 5.0x10⁻⁴ RIU
Flow rate: 0.1 to 10.0 ml/min., analytical to narrobore applications.
Flowcell: Fused, quartz.
Cell volume: 10ul
Cell pressure: <100psi maximum with built-in pressure relief valve
Linear Dynamic Range: <5% over +/- 5.0 x 10-4 RIU
Temperature control: Internal oven: 30 - 55 °C, +/-0.5 °C, settable in 1°C increments.
Refractive Index range: 1.00 to 1.75 RIU
Noise: < 1.5 x 10-9 RIU mode.
Drift: < 1.0 x 10-7 RIU/hr.
Time constant: 0 - 5.0 seconds
Attenuation settings: 1 to 500 x 10-6 RIU. 1 to 1024 maximum 410/2410 emulation mode.
Automatic Optical Zero Signal Polarity Switch coupled to Auto-zerp, Optical Zero Meter and adjustment with Refractive Index test samples.

Photo Diode Array Detector
Wavelength Range : 190-800nm
Wavelength Accuracy : ±1nm
Wavelength Repeatability: ±0.1nm
Photodiodes should be 512 or more
Optical resolution: 1.2 nm or better
Linearity range: >-5% at 2 AU, propylparaben at 257nm
Base line noise: 10x10^-6 Au, 10nm cell at 254nm
Drift: <1.0x10^-3/Au/hr/°C, dry cell 254nm
Data acquisition rate: Upto 80Hz.
Light source: Deuterium lamp with 2000 hour warranty
Flow cell design: Taperslit for reduced RI effects
Sensitivity setting range: 0.0001 - 2.0000 AUFS (under software control).

Filter setting range: 0, 0.1, 0.2, 0.5, 1, 2, 3.
Flowcell design: Reversed TaperBeam, Refractive Index corrected.

Pathlength: 10mm (Standard).
Cell Volume: 8ul (Standard).
Pressure: 1000psi (standard).
Wetted materials: 316 stainless steel, fused silica, Tefzel.
Peak purity software
Auto threshold for peak purity
3D Spectral contrast algorithm account for random system noise in spectral comparisons.
Polystyrene Standard Kit Low-Mid Mw
Polystyrene standard low to medium molecular weight range

Polystyrene Standard Kit Mid-High Mw
Polystyrene standard medium to high molecular weight range

Organic Based GPC Columns
THF Based – Series of columns with Mn 500 – 5,00,000
DMF Based – Series of columns with Mn 500 – 5,00,000

Aqueous based columns
Series of columns with Mn 500 – 5,00,000

Reverse phase C18 Columns
Symmetry Reverse phase C18, 5µm, 100Å, 4.6 mm × 150 mm length
Symmetry Shield Reverse phase C18, 5µm, 100Å, 4.6 mm × 150 mm length

Chromatography Manager Software Update
Suitable software for Control, acquire and process HPLC data

Breeze 2 upgrade from Breeze

2487 UV Detector CPU PCB

PC, Printer & UPS
Suitable Computer and Printer should be provided with the System along with 2KVA UPS.

OPTIONAL
Autosampler
2 microtiter plates according to SBS standards; 2x96-well high/low and 2x384-well low formats, 2X48-vial or 12-vial trays any combination of plates is allowed
Vial/Plate dimensions (includes cap): Maximum plate/ vial height: 4.7 cm (1.9 in.)
(includes septa or cap mat)
Loop volumes: 5,10,20,100 (standard), and 500 ul; 10mL loop (standard) for prep option
Dispenser syringe: 500 ul standard or 2500 ul optional
Vial detection: Missing vial/well plate detection by sensor
Wash solvent: Integrated wash solvent bottle
Injection modes: Full loop, partial loopfill, and partial loop needle overfill mode
RSD ≤ 0.5% for partial loop overfill injections injection volumes > 10uL
Reproducibility: RSD < 0.3% for full loop injections
RSD < 1.0% for partial loopfill injections, injection volumes > 10 uL
Carryover: < 0.05% with programmable needle wash
Injection volume: 0 to 9,999 uL (with 1 uL increment), depending on system settings

Injections per vial/well: Maximum 99 injections

Terms & Conditions: Quotations should be placed in separate envelopes of technical and commercial bid, kept in sealed outer envelope
1. The quotations must have validity of at least three months.
2. Quotation must include insurance and air-freight charges, delivery period of the items (CIF, New Delhi).
3. The products will be used for educational purposes. Any applicable academic institution discounts should be offered and stated clearly.
4. Detailed Brochures should accompany the offer.
5. If the bidder is an authorized dealer then the authorized Indian dealership certificate from the principles should be enclosed.
6. Warranty of the system must be given in the quotation.
7. Payment will be through irrevocable letter of Credit.
8. In case the items are proprietary products of the company, Proprietary item certificate from the manufacturer stating the same must be provided with the quotation.
9. Training / Installation should be provided.
10. Institute reserves the right to accept or reject any or all the quotations without assigning reasons thereof.