

Dated, the 11<sup>th</sup> Sep, 2017

**RFP No. 02/2017-18 FOR PROCUREMENT OF (U)HPLC WITH QUATERNARY GRADIENT PUMPS: CORRIGENDUM**

Further to this office Tender Enquiry No. 02/2017-18 dated 24<sup>th</sup> Aug 2017.

2. The following amendment are made in the ibid tender:

- (a) Last Date and Time for Receipt of Tenders: 25 Sep 2017 at 1500hrs
- (b) Date and Time of Opening of Tenders: 25 Sep 2017 at 1530hrs
- (c) Specification of (U) HPLC para 2 Technical details under Part II is **revised** as under:

**REVISED SPECIFICATION OF ULTRA PERFORMANCE LIQUID CHROMATOGRAPHY SYSTEM**

**UPLC /UHPLC QUARTERNARY PUMP:**

- The pump must be a Quaternary pump designed for Ultra performance liquid chromatography, designed to blend 4 (Four) solvents simultaneously in any proportion or concentration.
- The pump shall have an integrated degasser, which operates up to the maximum flow rate, with an independent channel for each solvent. The degasser may support an additional channel for the sample manager.
- The pump shall have the capability to Start the gradient "At injection (default), "Before the injection" (pre-volume) or "After Injection" (gradient delay)
- The pump may have an optional and integrated solvent select valve on one solvent line adding additional six (6) solvents (for a total of nine (9) solvents).
- The maximum operating pressure of the pump must be a minimum 15,000 PSI (pounds per square inch) with user selectable upper and lower pressure limits within the settable range of the flow rate.
- The Total System Dwell Volume, with sample manager configured must be <400 µL for Super Sensitivity.
- The pump shall have integrated, automated pump intake valves for robust reliable performance and reliable priming.
- The pump compositional precision must be <0.15% RSD.

- The pump flow must be settable from 1 - 2,200  $\mu\text{L}/\text{min}$ , in  $1\mu\text{L}/\text{min}$  increments. The pump flow accuracy must be less than or equal to  $\pm 1.0\%$  at 0.5 to 2.0 mL/min using 100% Solvent A, and the pump flow precision must be less than or equal to 0.075% RSD.
- The pump must have automatic and continuous compressibility compensation, requiring no user intervention.
- The pump must be able to delivery gradients with 11 (eleven) gradient curve shapes.
- The pump must have features such as automatic variable stroke, user settable backpressure limit, means to match system dwell volumes by adding a delay either before or after the injection occurs.
- Flow path must be able to tolerate solvent pH from 2-12.
- The pump shall have a means within the method for the on-line blending of eluents to a specific pH based on experimental pH calibration files that are created by the user.

### **SAMPLE MANAGEMENT – FLOW THROUGH NEEDLE:**

Ñ The system shall support a feature to reduce the impact of the pump's dwell volume on system throughput by having the pump and Sample Manager automatically communicate with each other to coordinate their pre-injection operations.

Ñ The sample manager carryover must be typically less than 0.004% from sample to sample.

Ñ The sample manager precision equal to or better than 0.5% RSD from 2 to 10  $\mu\text{L}$ .

Ñ The sample manager must be a programmable, automatic liquid sampler for use in Ultra Performance Liquid Chromatography, Ultra high Performance Liquid Chromatography or High Performance Liquid Chromatography. The sample manager must include sample preparation functions and auto dilution.

Ñ The sample manager must be able to accommodate at least 96 (ninety-six) of the standard 2-mL vials or >2 micro-plates (96 or other well-plates).

Ñ The sample manager must have a settable temperature range from  $4^{\circ}\text{C}$  to  $40^{\circ}\text{C}$  in  $1^{\circ}\text{C}$  increment to provide an environment for temperature sensitive samples. A means to ensure that the internal vial temperature is constant shall be enabled. The sample manager must not let light into the sample compartment. A user enable/disable compartment light shall be available.

Ñ The sample manager must have features such as "No Injection Mode" to support multi-pump and multi-valve operation.

Ñ The sample shall have an integrated wash station and injection port so both the inner and outer surfaces are rinsed as well as the injection port.

### **COLUMN MANAGEMENT:**

- The column compartment contribution to delay volume shall be typically  $<2.5\mu\text{L}$  with pre-heating. Excellent thermal transfer properties without added system volume.
- $<2\mu\text{L}$  of bandspread, increase with the addition of the Column Manager with active pre-heating.
- The column compartment must be able to heat the column from  $20^{\circ}\text{C}$  to  $\geq 80^{\circ}\text{C}$

- The column compartment must pre-heat the mobile phase solvent, enhances method transfer between column compartments. The column compartment shall support option passive pre-heating.
- The system shall support some technology which documents the methods and usage of UPLC/UHPLC columns, up to 50 sample sets, the minimum and maximum pressure and temperature, sample and injection totals for the column can be stored and accessed using UPLC/UHPLC system Console software.

## **DETECTOR :**

### **UV/VIS DETECTOR:**

- Ñ The UV/VIS detector must have a wavelength range of 190 to 700nm that is covered by single deuterium lamp.
- Ñ The UV/VIS detector must have standard analytical flow cell with not more than 10mm path length and a volume of not more than  $\leq 2.5\mu\text{L}$  for optimal peak dispersion of UPLC separations.
- Ñ The UV/VIS detector must have a means to optimize lamp performance automatically and without user intervention.
- Ñ The UV/VIS detector must have a wavelength accuracy of better than or equal to  $\pm 1\text{nm}$ .
- Ñ The UV/VIS detector must be able to acquire data at up to 80 points per second.
- Ñ The UV/VIS detector flow cells shall have a means to identify the path length electronically.
- Ñ The UV/VIS detector must have a linear range that does not deviate by more than 5% up to 2.0AU.
- Ñ The UV/VIS detector must have a noise specification of  $\pm 8\mu\text{AU}$ .
- Ñ The UV/Vis detector must have an optical bandwidth of 8nm or less.
- Ñ The UV/Vis detector drift specification must be less than or equal to  $5 \times 10^{-4} \text{AU/hour}/^\circ\text{C}$ .
- Ñ The UV/Vis detector must be able to collect up to two (2) independent data channels simultaneously.

### **FLUORESCENCE DETECTOR:**

- Ñ The fluorescence detector must have a wavelength range of 200 to 890nm for the excitation wavelength and 210 to 900nm for the emission wavelength.
- Ñ The fluorescence detector must have the ability to set the sampling/data rate and filter time constants independently to maximize resolution and sensitivity.
- Ñ The fluorescence detector must have standard analytical flow cell with a volume of not more than  $4\mu\text{L}$  for optimal peak dispersion of UHPLC separations.
- Ñ The fluorescence detector must have a means to optimize lamp performance automatically and without user intervention.
- Ñ The fluorescence detector must be able to acquire data at up to 80 points per second.
- Ñ The fluorescence detector must have an optical bandwidth of 20nm.
- Ñ The fluorescence detector must have a wavelength accuracy less than  $\pm 3\text{nm}$ .
- Ñ The fluorescence detector must have a wavelength repeatability of less than  $\pm 0.25\text{nm}$ .
- Ñ The fluorescence detector must have a Hg/Xe lamp as a higher energy source.

Ñ The fluorescence detector must be able to collect 2D data, 3D data, and ex-em plots.

Ñ The fluorescence detector must be able to collect up to 4 2D data channels simultaneously with unique ex/em pairs.

Ñ The fluorescence detector must have a sensitivity measured with the Raman s/n of water greater than 500 or more with the noise measured at the signal (without using a dark signal as the noise reference).

Fluorescence detector should be used for aflatoxin analysis with/without post column derivitization to reduce the run times

### **Original Licensed Software:**

- Chromatography software with integrated database (SQL/Oracle 8.0)
- SQL/Oracle database for easy tracking and trending: \*Instrument Method, Processing Method, Report Method, etc.
- The system software must be able to support up to four (4) separate instruments running on different time-bases. The software must be able to support multi-detector configurations for each instrument
- Custom field / Custom calculations.
- Should have the facility to show 11 or more different Gradient curves through the software
- Software should offer multiple levels of password, security to ensure the integrity of all your raw data and results and extensive audit trail.
- The system software must be able to support up to 4 (four) separate instruments running on different time-bases. The software must be able to support multi-detector configurations for each instrument.

### **Analytical Columns:**

UPLC/UHPLC Column C18 (100 x 2.1 mm x 1.9 µm\*) - 1 No.

\*Maximum particle size

## REVISED TECHNICAL BID FORM (B)

The bids of only the technically qualified bidders will be eligible for consideration for opening of financial bid. The technical bid of the bidders will be evaluated on the basis of specification of the offered model vis-à-vis the prescribed specification given below :

(a) Name of the Equipment: .....

(b) Offered Model: .....

(c) Brief details of the offered Model: (in terms of sensitivity, specification, LOD, LOQ, etc.)  
(not more than 150 words)

(d) Specification: .....

Sl. No	Main Heads/Components	Prescribed Specification	Please Specify whether the quoted model meets the specification (Yes/No)	Specification of the quoted model
1.	<b>UPLC/UHPLC QUARTERNARY PUMP</b>	<ul style="list-style-type: none"> <li>• The pump must be a Quaternary pump designed for Ultra performance liquid chromatography, designed to blend 4 (Four) solvents simultaneously in any proportion or concentration.</li> <li>• The pump shall have an integrated degasser, which operates up to the maximum flow rate, with an independent channel for each solvent. The degasser may support an additional channel for the sample manager.</li> <li>• The pump shall have the capability to Start the gradient "At injection (default), "Before the injection" (pre-volume) or "After Injection" (gradient delay)</li> <li>• The pump may have an optional and integrated solvent select valve on one solvent line adding additional six (6) solvents (for a total of nine (9) solvents).</li> <li>• The maximum operating pressure of the pump must be a minimum 15,000 PSI (pounds per square inch) with user selectable upper and lower pressure limits within the settable range of the flow rate.</li> <li>• The Total System Dwell Volume, with sample manager configured must be &lt;400 µL for Super Sensitivity.</li> <li>• The pump shall have integrated, automated pump intake valves for robust reliable performance and reliable priming.</li> <li>• The pump compositional precision must be &lt;0.15% RSD.</li> <li>• The pump flow must be settable from 1 - 2,200 µl/min, in 1µL/min increments. The pump flow accuracy must be less than or equal to ± 1.0% at 0.5 to 2.0</li> </ul>		

		<p>mL/min using 100% Solvent A, and the pump flow precision must be less than or equal to 0.075% RSD.</p> <ul style="list-style-type: none"> <li>• The pump must have automatic and continuous compressibility compensation, requiring no user intervention.</li> <li>• The pump must be able to delivery gradients with 11 (eleven) gradient curve shapes.</li> <li>• The pump must have features such as automatic variable stroke, user settable backpressure limit, means to match system dwell volumes by adding a delay either before or after the injection occurs.</li> <li>• Flow path must be able to tolerate solvent pH from 2-12.</li> <li>• The pump shall have a means within the method for the on-line blending of eluents to a specific pH based on experimental pH calibration files that are created by the user.</li> </ul>		
2.	<p><b>SAMPLE MANAGEMENT – FLOW THROUGH NEEDLE</b></p>	<p>Ñ The system shall support a feature to reduce the impact of the pump’s dwell volume on system throughput by having the pump and Sample Manager automatically communicate with each other to coordinate their pre-injection operations.</p> <p>Ñ The sample manager carryover must be typically less than 0.004% from sample to sample.</p> <p>Ñ The sample manager precision equal to or better than 0.5% RSD from 2 to 10 µL.</p> <p>Ñ The sample manager must be a programmable, automatic liquid sampler for use in Ultra Performance Liquid Chromatography, Ultra high Performance Liquid Chromatography or High Performance Liquid Chromatography. The sample manager must include sample preparation functions and auto dilution.</p> <p>Ñ The sample manager must be able to accommodate at least 96 (ninety-six) of the standard 2-mL vials or &gt;2 micro-plates (96 or other well-plates).</p> <p>Ñ The sample manager must have a settable temperature range from 4°C to 40 °C in 1 °C increment to provide an environment for temperature sensitive samples. A means to ensure that the internal vial temperature is constant shall be enabled. The sample manager must not</p>		

		<p>let light into the sample compartment. A user enable/disable compartment light shall be available.</p> <p>Ñ The sample manager must have features such as “No Injection Mode” to support multi-pump and multi-valve operation.</p> <p>Ñ The sample shall have an integrated wash station and injection port so both the inner and outer surfaces are rinsed as well as the injection port.</p>		
3.	<b>COLUMN MANAGEMENT</b>	<ul style="list-style-type: none"> <li>• The column compartment contribution to delay volume shall be typically &lt;2.5 µL with pre-heating. Excellent thermal transfer properties without added system volume.</li> <li>• &lt;2 µL of band spread, increase with the addition of the Column Manager with active pre-heating.</li> <li>• The column compartment must be able to heat the column from 20°C to ≥80° C</li> <li>• The column compartment must pre-heat the mobile phase solvent, enhances method transfer between column compartments. The column compartment shall support option passive pre-heating.</li> <li>• The system shall support some technology which documents the methods and usage of UPLC/UHPLC columns, up to 50 sample sets, the minimum and maximum pressure and temperature, sample and injection totals for the column can be stored and accessed using UPLC/UHPLC system Console software.</li> </ul>		
4.	<b>UV/VIS DETECTOR</b>	<p>Ñ The UV/VIS detector must have a wavelength range of 190 to 700nm that is covered by single deuterium lamp.</p> <p>Ñ The UV/VIS detector must have standard analytical flow cell with not more than 10mm path length and a volume of ≤2.5µL for optimal peak dispersion of UPLC separations.</p> <p>Ñ The UV/VIS detector must have a means to optimize lamp performance automatically and without user intervention.</p> <p>Ñ The UV/VIS detector must have a wavelength accuracy of better than or equal to ±1nm.</p> <p>Ñ The UV/VIS detector must be able to acquire data at up to 80 points per second.</p>		

		<p>Ñ The UV/VIS detector flow cells shall have a means to identify the path length electronically.</p> <p>Ñ The UV/VIS detector must have a linear range that does not deviate by more than 5% up to 2.0AU.</p> <p>Ñ The UV/VIS detector must have a noise specification of <math>\pm 8\mu\text{AU}</math>.</p> <p>Ñ The UV/Vis detector must have an optical bandwidth of 8nm or less.</p> <p>Ñ The UV/Vis detector drift specification must be less than or equal to <math>5 \times 10^{-4} \text{ AU/hour/}^\circ\text{C}</math>.</p> <p>Ñ The UV/Vis detector must be able to collect up to two (2) independent data channels simultaneously.</p>		
5.	<b>FLUORESCENCE DETECTOR</b>	<p>Ñ The fluorescence detector must have a wavelength range of 200 to 890nm for the excitation wavelength and 210 to 900nm for the emission wavelength.</p> <p>Ñ The fluorescence detector must have the ability to set the sampling/data rate and filter time constants independently to maximize resolution and sensitivity.</p> <p>Ñ The fluorescence detector must have standard analytical flow cell with a volume of not more than <math>4\mu\text{L}</math> for optimal peak dispersion of UHPLC separations.</p> <p>Ñ The fluorescence detector must have a means to optimize lamp performance automatically and without user intervention.</p> <p>Ñ The fluorescence detector must be able to acquire data at up to 80 points per second.</p> <p>Ñ The fluorescence detector must have an optical bandwidth of 20nm.</p> <p>Ñ The fluorescence detector must have a wavelength accuracy less than <math>\pm 3\text{nm}</math>.</p> <p>Ñ The fluorescence detector must have a wavelength repeatability of less than <math>\pm 0.25\text{nm}</math>.</p> <p>Ñ The fluorescence detector must have a Hg/Xe lamp as a higher energy source.</p> <p>Ñ The fluorescence detector must be able to collect 2D data, 3D data, and ex - em plots.</p> <p>Ñ The fluorescence detector must be able to collect up to 4 2D data channels simultaneously with unique ex/em pairs.</p>		

		<p>Ñ The fluorescence detector must have a sensitivity measured with the Raman s/n of water greater than 500 or more with the noise measured at the signal (without using a dark signal as the noise reference).</p> <ul style="list-style-type: none"> <li>Fluorescence detector should be used for aflatoxin analysis with/without post column derivitization to reduce the run times.</li> </ul>		
6.	<b>Original Licensed Software</b>	<ul style="list-style-type: none"> <li>Chromatography software with integrated database (SQL/Oracle 8.0)</li> <li>SQL/Oracle database for easy tracking and trending: *Instrument Method, Processing Method, Report Method, etc.</li> <li>The system software must be able to support up to four (4) separate instruments running on different time-bases. The software must be able to support multi-detector configurations for each instrument</li> <li>Custom field / Custom calculations.</li> <li>Should have the facility to show 11 or more different Gradient curves through the software</li> <li>Software should offer multiple levels of password, security to ensure the integrity of all your raw data and results and extensive audit trail.</li> <li>The system software must be able to support up to 4 (four) separate instruments running on different time-bases. The software must be able to support multi-detector configurations for each instrument.</li> </ul>		
7.	<b>Analytical Columns</b>	UPLC/UHPLC Column C18 (100 x 2.1 mm x 1.9 µm*) - 1 No. *Maximum Particle size		
8.	<b>OTHER CONSUMABLES</b>	Vials, Pump maintenance kits, detector maintenance kits, line Frits, filters, lamps, pump seal etc Minimum two sets or suitable for two years of operation has to be provided along with the instrument		
9.	<b>COMPUTER</b>	Lenovo/HP/Dell Pentium 4 or Better Processor, 2 GB RAM or better, 500 GB HDD or better, DVD Combo Drive, USB ports, 19" TFT monitor, Key Board, Optical Mouse, Laser jet Printer		
10.	<b>Operation and maintenance &amp; Training Component</b>	<ul style="list-style-type: none"> <li>The supplier will have to carry out successful installation at our laboratory premises (where ever the system has to be installed) and provide on – site comprehensive training for scientific personnel operating the system and support services till customer satisfaction</li> </ul>		

		<p>with the system and a training at the suppliers lab premises is also required.</p> <ul style="list-style-type: none"> <li>The supplier will be required to impart two (02) trainings for two(02) scientists of CFL, Kolkata(for 05 working days each) within a period of <b>six months</b> after successful installation and commissioning of the equipment at application laboratory.</li> </ul>		
11.	<b>IQ/OQ/PQ</b>	<ul style="list-style-type: none"> <li>IQ/OQ/PQ of the system is required</li> </ul>		
12.	<b>Warranty</b>	<ul style="list-style-type: none"> <li>Standard Warranty of 24 months starting from date of satisfactory and faultless functioning of the equipment for 60 days at the respective laboratory premises.</li> <li>Comprehensive Annual Maintenance Contract Service for 60 months after expiry of standard Guarantee/Warranty should be quoted</li> <li>Annual calibration of the equipment shall be a part of the CAMC. It shall also be mandatory to perform calibration after every major repair/breakdown.</li> <li>The vendor should have available for ten years guaranteed parts and CMC service</li> <li>The supplier or his authorized agent should have after sales and service centre near each of our laboratory location where the equipment is to be supplied.</li> </ul>		
13.	<b>Pre-installation requirements</b>	<ul style="list-style-type: none"> <li>Provide all pre-installation requirements</li> </ul>		

2. **Revised Price Bid Format** :The Revised Price Bid Format is given below and Bidders are required to fill this up correctly with full details, as required under Part-II of RFP :-

(a) Basic cost of the item/items:

**Cost Details**

Sl. No	Main Heads/Components	Prescribed Specification	Price in INR
1.	<b>UPLC/UHPLC QUARTERNARY PUMP</b>	<ul style="list-style-type: none"> <li>The pump must be a Quaternary pump designed for Ultra performance liquid chromatography, designed to blend 4 (Four) solvents simultaneously in any proportion or concentration.</li> <li>The pump shall have an integrated degasser, which operates up to the maximum flow rate, with an independent channel for each solvent. The degasser may support an additional channel for the sample manager.</li> <li>The pump shall have the capability to Start the gradient "At injection (default), "Before the injection" (pre-volume) or "After Injection" (gradient delay)</li> </ul>	

		<ul style="list-style-type: none"> <li>• The pump may have an optional and integrated solvent select valve on one solvent line adding additional six (6) solvents (for a total of nine (9) solvents).</li> <li>• The maximum operating pressure of the pump must be a minimum 15,000 PSI (pounds per square inch) with user selectable upper and lower pressure limits within the settable range of the flow rate.</li> <li>• The Total System Dwell Volume, with sample manager configured must be &lt;400 µL for Super Sensitivity.</li> <li>• The pump shall have integrated, automated pump intake valves for robust reliable performance and reliable priming.</li> <li>• The pump compositional precision must be &lt;0.15% RSD.</li> <li>• The pump flow must be settable from 1 - 2,200 µl/min, in 1µL/min increments. The pump flow accuracy must be less than or equal to ± 1.0% at 0.5 to 2.0 mL/min using 100% Solvent A, and the pump flow precision must be less than or equal to 0.075% RSD.</li> <li>• The pump must have automatic and continuous compressibility compensation, requiring no user intervention.</li> <li>• The pump must be able to delivery gradients with 11 (eleven) gradient curve shapes.</li> <li>• The pump must have features such as automatic variable stroke, user settable backpressure limit, means to match system dwell volumes by adding a delay either before or after the injection occurs.</li> <li>• Flow path must be able to tolerate solvent pH from 2-12.</li> <li>• The pump shall have a means within the method for the on-line blending of eluents to a specific pH based on experimental pH calibration files that are created by the user.</li> </ul>	
2.	<b>SAMPLE MANAGEMENT – FLOW THROUGH NEEDLE</b>	<p>Ñ The system shall support a feature to reduce the impact of the pump’s dwell volume on system throughput by having the pump and Sample Manager automatically communicate with each other to coordinate their pre-injection operations.</p> <p>Ñ The sample manager carryover must be typically less than 0.004% from sample to sample.</p> <p>Ñ The sample manager precision equal to or better than 0.5% RSD from 2 to 10 µL.</p> <p>Ñ The sample manager must be a programmable, automatic liquid sampler for use in Ultra Performance Liquid Chromatography, Ultra high Performance Liquid Chromatography or High Performance Liquid Chromatography. The sample manager must include sample preparation functions and auto dilution.</p> <p>Ñ The sample manager must be able to accommodate at least 96 (ninety-six) of the standard 2-mL vials or &gt;2 micro-plates (96 or other well-plates).</p>	

		<p>Ñ The sample manager must have a settable temperature range from 4°C to 40 °C in 1 °C increment to provide an environment for temperature sensitive samples. A means to ensure that the internal vial temperature is constant shall be enabled. The sample manager must not let light into the sample compartment. A user enable/disable compartment light shall be available.</p> <p>Ñ The sample manager must have features such as “No Injection Mode” to support multi-pump and multi-valve operation.</p> <p>Ñ The sample shall have an integrated wash station and injection port so both the inner and outer surfaces are rinsed as well as the injection port.</p>	
3.	<b>COLUMN MANAGEMENT</b>	<ul style="list-style-type: none"> <li>• The column compartment contribution to delay volume shall be typically &lt;2.5µL with pre-heating. Excellent thermal transfer properties without added system volume.</li> <li>• &lt;2 µL of band spread, increase with the addition of the Column Manager with active pre-heating.</li> <li>• The column compartment must be able to heat the column from 20°C to ≥80° C</li> <li>• The column compartment must pre-heat the mobile phase solvent, enhances method transfer between column compartments. The column compartment shall support option passive pre-heating.</li> <li>• The system shall support some technology which documents the methods and usage of UPLC/UHPLC columns, up to 50 sample sets, the minimum and maximum pressure and temperature, sample and injection totals for the column can be stored and accessed using UPLC/UHPLC system Console software.</li> </ul>	
4.	<b>UV/VIS DETECTOR</b>	<p>Ñ The UV/VIS detector must have a wavelength range of 190 to 700nm that is covered by single deuterium lamp.</p> <p>Ñ The UV/VIS detector must have standard analytical flow cell with not more than 10mm path length and a volume of ≤2.5µL for optimal peak dispersion of UPLC separations.</p> <p>Ñ The UV/VIS detector must have a means to optimize lamp performance automatically and without user intervention.</p> <p>Ñ The UV/VIS detector must have a wavelength accuracy of better than or equal to ±1nm.</p> <p>Ñ The UV/VIS detector must be able to acquire data at up to 80 points per second.</p> <p>Ñ The UV/VIS detector flow cells shall have a means to identify the path length electronically.</p> <p>Ñ The UV/VIS detector must have a linear range that does not deviate by more than 5% up to 2.0AU.</p> <p>Ñ The UV/VIS detector must have a noise specification of ±8µAU.</p> <p>Ñ The UV/Vis detector must have an optical bandwidth of 8nm or less.</p>	

		<p>Ñ The UV/Vis detector drift specification must be less than or equal to <math>5 \times 10^{-4}</math> AU/hour/°C.</p> <p>Ñ The UV/Vis detector must be able to collect up to two (2) independent data channels simultaneously.</p>	
5.	<b>FLUORESCENCE DETECTOR</b>	<p>Ñ The fluorescence detector must have a wavelength range of 200 to 890nm for the excitation wavelength and 210 to 900nm for the emission wavelength.</p> <p>Ñ The fluorescence detector must have the ability to set the sampling/data rate and filter time constants independently to maximize resolution and sensitivity.</p> <p>Ñ The fluorescence detector must have standard analytical flow cell with a volume of not more than 4µL for optimal peak dispersion of UHPLC separations.</p> <p>Ñ The fluorescence detector must have a means to optimize lamp performance automatically and without user intervention.</p> <p>Ñ The fluorescence detector must be able to acquire data at up to 80 points per second.</p> <p>Ñ The fluorescence detector must have an optical bandwidth of 20nm.</p> <p>Ñ The fluorescence detector must have a wavelength accuracy less than <math>\pm 3</math>nm.</p> <p>Ñ The fluorescence detector must have a wavelength repeatability of less than <math>\pm 0.25</math>nm.</p> <p>Ñ The fluorescence detector must have a Hg/Xe lamp as a higher energy source.</p> <p>Ñ The fluorescence detector must be able to collect 2D data, 3D data, and ex -em plots.</p> <p>Ñ The fluorescence detector must be able to collect up to 4 2D data channels simultaneously with unique ex/em pairs.</p> <p>Ñ The fluorescence detector must have a sensitivity measured with the Raman s/n of water greater than 500 or more with the noise measured at the signal (without using a dark signal as the noise reference).</p> <ul style="list-style-type: none"> <li>• Fluorescence detector should be used for aflatoxin analysis with/without post column derivitization to reduce the run times</li> </ul>	
6.	<b>Original Licensed Software</b>	<ul style="list-style-type: none"> <li>• Chromatography software with integrated database (SQL/Oracle 8.0)</li> <li>• SQL/Oracle database for easy tracking and trending: *Instrument Method, Processing Method, Report Method, etc.</li> <li>• The system software must be able to support up to four (4) separate instruments running on different time-bases. The software must be able to support multi-detector configurations for each instrument</li> <li>• Custom field / Custom calculations.</li> <li>• Should have the facility to show 11 or more different Gradient curves through the software</li> </ul>	

		<ul style="list-style-type: none"> <li>Software should offer multiple levels of password, security to ensure the integrity of all your raw data and results and extensive audit trail.</li> <li>The system software must be able to support up to 4 (four) separate instruments running on different time-bases. The software must be able to support multi-detector configurations for each instrument.</li> </ul>	
7.	<b>Analytical Columns</b>	UPLC/UHPLC Column C18 (100 x 2.1 mm x 1.9 µm*) - 1 No. *Maximum Particle Size	
8.	<b>OTHER CONSUMABLES</b>	Vials, Pump maintenance kits, detector maintenance kits, line Frits, filters, lamps, pump seal etc Minimum two sets or suitable for two years of operation has to be provided along with the instrument	
9.	<b>COMPUTER</b>	Lenovo/HP/Dell Pentium 4 or Better Processor, 2 GB RAM or better, 500 GB HDD or better, DVD Combo Drive, USB ports, 19" TFT monitor, Key Board, Optical Mouse, Laser jet Printer	
10.	<b>Operation and maintenance &amp; Training Component</b>	<ul style="list-style-type: none"> <li>The supplier will have to carry out successful installation at our laboratory premises (where ever the system has to be installed) and provide on – site comprehensive training for scientific personnel operating the system and support services till customer satisfaction with the system and a training at the suppliers lab premises is also required.</li> <li>The supplier will be required to impart two(02) trainings for two(02) scientists of CFL, Kolkata(for 05 working days each) within a period of 02 years after successful installation of the equipment at application laboratory.</li> </ul>	
11.	<b>IQ/OQ/PQ</b>	IQ/OQ/PQ of the system is required	
12.	<b>Warranty/CAMC</b> Standard Warranty of 24 months starting from date of satisfactory and faultless functioning of the equipment for 60 days at the respective laboratory premises. Comprehensive Maintenance Contract Service for 60 months after expiry of Standard Guarantee/Warranty should be quoted Annual calibration of the equipment shall be a part of the CAMC. It shall also be mandatory to perform calibration after every major repair/breakdown. The vendor should have available for ten years guaranteed parts and CMC service The supplier or his authorized agent should have after sales and service centre near each of our laboratory location where the equipment is to be supplied	Cost of 1 <sup>st</sup> year CAMC	
		Cost of 2 <sup>nd</sup> year CAMC	
		Cost of 3 <sup>rd</sup> year CAMC	
		Cost of 4 <sup>th</sup> year CAMC	
		Cost of 5 <sup>th</sup> year CAMC	
<b>Gross Total(A)</b>			
Subtract- Buy Back Price of old instrument mentioned at Annexure VI(B)			
<b>Net Amount(A-B)</b>			

**Note1:**

- (a) The financial bid has to be filled necessarily in the format given above and has to be signed by the authorized representative of the bidder with full name designation and seal on each page. The above quote should include Clearing and Transportation charges.
- (b) Price quoted should be valid for minimum 06 months from the last date of submission of the bids.
- (c) Explanatory notes, if so desired, can be separately submitted along with the financial bid but financial bid in the above format is required to be submitted.
- (d) Equipment delivery time will be 90 days from the date of issue of Supply order.
- (e) Please indicate separately any duties, taxes.

**Note 2 :** The rate may be quoted in foreign currency and/or in Indian currency, however, for comparison/evaluation purpose the bills selling market rate of exchange established by RBI for similar transaction as on date of opening of price bid shall be used to convert foreign currencies to the Indian rupees.

**Note 3 :** Determination of L-1 will be done based on Net amount after Buy Back adjustment (not including levies, taxes and duties levied by Central/State/Local governments such as excise duty, GST, Octroi/entry tax, etc. on final product) of all items/requirements as mentioned above.

Sd/-  
(Umesh Kumar Jain)  
Joint Director(QA)