



# INSTITUTE OF NANO SCIENCE AND TECHNOLOGY, MOHALI

(An autonomous Research Institute of Department of Science and Technology,  
Government of India)

Habitat Centre, Sec-64, Phase X, Mohali – 160062, PUNJAB

Phone No: 0172 – 2210056/57/73/75, Fax No: 0172 – 2211074

Website: [www.inst.ac.in](http://www.inst.ac.in)

Ref No. INST/12(15)/2019-Pur

Date: 25/06/2019

## CORRIGENDUM

Reference to the presentation given by the bidders who had attended pre-bid meeting for purchase of equipment: **CHROMATOGRAPHY SYSTEM WITH ACCESSORIES** held on 24/05/2019 at 11.00AM at INST, Mohali. After discussion with pre-bid committee, following technical specifications of the tender has been modified. All bidders are requested to read the below modified technical specifications before participating in the tender. The last date & time for tender submission has been extended upto 15<sup>th</sup> July 2019 till 3.00PM. Bids received within due date and time will be opened on same day at 3.00PM in the presence of bidder(s) if any.

Modified specifications are as follows:-

OLD SPECIFICATIONS	NEW SPECIFICATIONS AFTER PRE-BID MEETING
<b>1<sup>st</sup> system specifications:</b>	
<b>1A. HPLC/GPC Pump (or delivery system)</b> <ul style="list-style-type: none"> <li>• High Pressure Gradient pump System</li> <li>• The pump should be operable both in isocratic and gradient mode.</li> <li>• The flow rate should be within a range from 0.001 to 10 ml/min with the possibility of increment of 0.01 ml/min or better.</li> <li>• Flow Precision: <math>\leq 0.1\%</math> RSD or better.</li> <li>• Flow Accuracy: <math>\pm 1.0\%</math> or better</li> <li>• Delay Volume: <math>&lt;300\mu\text{l}</math> (with Mixer) or better.</li> <li>• Max. Operating pressure: 5800 psi or better</li> </ul>	<b>1A. HPLC/GPC Pump (or delivery system)</b> <ul style="list-style-type: none"> <li>• High Pressure Binary Gradient two pump System</li> <li>• The pump should be operable both in isocratic and gradient mode.</li> <li>• The flow rate should be within a range from 0.001 to 10 ml/min with the possibility of increment of 0.01 ml/min or better.</li> <li>• Flow Precision: <math>\leq 0.1\%</math> RSD or better.</li> <li>• Flow Accuracy: <math>\pm 1.0\%</math> or better</li> <li>• Delay Volume: <math>&lt;700\mu\text{l}</math> (with Mixer) or better.</li> <li>• Max. Operating pressure: 5800 psi or better -- quote price separately</li> </ul>
<b>1B. Auto sampler</b> <ul style="list-style-type: none"> <li>• The auto-sampler should work with injection volume range of 0.2 to 1000 <math>\mu\text{l}</math> with possibility of 1<math>\mu\text{l}</math> increment or better.</li> <li>• Vial tray holder should have option for 60 vials or more of 2ml.</li> <li>• Injection Reproducibility/precision: RSD <math>&lt;0.3\%</math> or better.</li> <li>• Carry over: <math>&lt;0.05\%</math> or better.</li> <li>• Auto sampler with provision of washing between injections with variable injection volume</li> <li>• Should be supplied with maintenance kit, syringe and supply of at least 100 or more sample vials of standard size capacities with caps and septa.</li> </ul>	<b>1B. Auto sampler</b> <ul style="list-style-type: none"> <li>• The auto-sampler should work with injection volume range of 0.01 to 500 <math>\mu\text{l}</math> with possibility of 1<math>\mu\text{l}</math> increment or better.</li> <li>• Vial tray holder should have option for 60 vials or more of 2ml.</li> <li>• Injection Reproducibility/precision: RSD <math>&lt;0.3\%</math> or better.</li> <li>• Carry over: <math>&lt;0.05\%</math> or better.</li> <li>• Auto sampler with provision of washing between injections with variable injection volume</li> <li>• Should be supplied with maintenance kit, syringe and supply of at least 100 or more sample vials of standard size capacities with caps and septa.</li> </ul>



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<ul style="list-style-type: none"> <li>Should have capacity to detect missing vials/well in the plates by an auto sensing system.</li> </ul>	<ul style="list-style-type: none"> <li>Should have capacity to detect missing vials/well in the plates by an auto sensing system.</li> </ul> <p><b>-- quote price separately</b></p>
<p><b>1C. Column Oven</b></p> <ul style="list-style-type: none"> <li>Should have provision for housing at least two or more columns of 30 cm length.</li> <li>Temperature setting range: Ambient- 60°C or better</li> <li>Operating temperature: Ambient to 60°C or better</li> </ul>	<p><b>1C. Column Oven</b></p> <ul style="list-style-type: none"> <li>Should have provision for housing at least two or more columns of 30 cm length.</li> <li>Temperature setting range: Ambient+5 to 80°C or better</li> <li>Operating temperature: environmental condition up to 35 °C</li> </ul> <p><b>-- quote price separately</b></p>
<p><b>1D. Columns:</b></p> <ul style="list-style-type: none"> <li>At least 6 sets of 12 different Molecular Weight standards ranging from low to mid &amp; high molecular weights for the conventional calibration</li> <li>At least 3 Nos. of low to medium sized molecular weight cut off General Mixed Org 250 mm x 7.8 mm along with a guard column GPC columns (polystyrene)</li> <li>normal phase silica gel Column (150mm x 3 mm particle size 3.5 micron)-1 No</li> </ul>	<p><b>1D. Consumables: Standards and Columns</b></p> <ul style="list-style-type: none"> <li>1 set of 10 different Molecular Weight standards ranging from (500 to 40000 Daltons molecular weight) for the conventional calibration</li> <li>Total 3 nos of each one of 100 to 5000 Da, 500 to 20000Da, and 20000 to 40000 Da molecular weight cut off General Mixed Org 250 mm x 7.8 mm along with a guard column GPC columns (polystyrene )</li> <li>normal phase silica gel Column (150mm x 3 mm particle size 3.5 micron)-1 No</li> </ul> <p><b>-- quote price separately</b></p>
<p><b>1E. PDA Detector</b></p> <ul style="list-style-type: none"> <li>The detector should have wavelength range of 190-800 nm or more with wavelength accuracy of <math>\pm 1</math> nm</li> <li>Wavelength Repeatability/precision: <math>\pm 0.1</math> nm</li> <li>Should be operable at high resolution mode with a total of more than 512 Photo diodes</li> <li>Should be operable at noise level <math>0.6 \times 10^{-5}</math> AU at 254 nm or better</li> <li>Data Acquisition : Up to 80 Hz or better</li> <li>Path-length : 10 mm or better and cell volume : 10 <math>\mu</math>L or better</li> </ul>	<p><b>1E. PDA Detector</b></p> <ul style="list-style-type: none"> <li>The detector should have wavelength range of 190-800 nm or more with wavelength accuracy of <math>\pm 1</math> nm</li> <li>Wavelength Repeatability/precision: <math>\pm 0.1</math> nm</li> <li>Should be operable at high resolution mode with a total of more than 512 Photo diodes</li> <li>Should be operable at noise level <math>0.8 \times 10^{-5}</math> AU at 254 nm or better</li> <li>Data Acquisition : Up to 80 Hz or better</li> <li>Path-length : 10 mm or better and cell volume : 13 <math>\mu</math>L or better</li> </ul> <p><b>-- quote price separately</b></p>
<p><b>1F. RI Detector</b></p> <ul style="list-style-type: none"> <li><b>Measurement range</b> 5.0x10<sup>-4</sup> to 7.0x10<sup>-9</sup> RIU or better</li> <li><b>Refractive Index range</b> 1.00 to 1.75 RIU</li> <li><b>Linear Dynamic Range</b> &lt; 5.0% over <math>\pm 5.0 \times 10^{-4}</math> RIU or better</li> <li><b>Flow rate</b> 0.1 to 10.0 ml/min.</li> </ul>	<p><b>1F. RI Detector</b></p> <ul style="list-style-type: none"> <li><b>Measurement range</b> 0.25-512 <math>\square</math>RIU or better</li> <li><b>Refractive Index range</b> 1.00 to 1.75 RIU</li> <li><b>Flow rate</b> upto 10.0 ml/min.</li> </ul> <p><b>-- quote price separately</b></p>



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<b>2nd system specifications:</b>	
<p><b>2A. Reverse Phase HPLC Pump (or delivery system)</b></p> <ul style="list-style-type: none"> <li>• High Pressure Gradient pump System</li> <li>• The pump should be operable both in isocratic and gradient mode.</li> <li>• The flow rate should be within a range from 0.001 to 10 ml/min with the possibility of increment of 0.01 ml/min or better.</li> <li>• Flow Precision: <math>\leq 0.1\%</math> RSD or better.</li> <li>• Flow Accuracy: <math>\pm 1.0\%</math> or better</li> <li>• Delay Volume: <math>&lt;300\mu\text{l}</math> (with Mixer) or better.</li> <li>• Max. Operating pressure: 5800 psi or better</li> </ul>	<p><b>2A. Reverse Phase HPLC Pump (or delivery system)</b></p> <ul style="list-style-type: none"> <li>• High Pressure Binary Gradient two pump System</li> <li>• The pump should be operable both in isocratic and gradient mode.</li> <li>• The flow rate should be within a range from 0.001 to 10 ml/min with the possibility of increment of 0.01 ml/min or better.</li> <li>• Flow Precision: <math>\leq 0.1\%</math> RSD or better.</li> <li>• Flow Accuracy: <math>\pm 1.0\%</math> or better</li> <li>• Delay Volume: <math>&lt;700\mu\text{l}</math> (with Mixer) or better.</li> </ul> <p>Max. Operating pressure: 5800 psi or better -- <b>quote price separately</b></p>
<p><b>2B. Auto sampler</b></p> <ul style="list-style-type: none"> <li>• The auto-sampler should work with injection volume range of 0.2 to 1000 <math>\mu\text{l}</math> with possibility of 1<math>\mu\text{l}</math> increment or better.</li> <li>• Vial tray holder should have option for 60 vials or more of 2ml.</li> <li>• Injection Reproducibility/precision: RSD <math>&lt;0.3\%</math> or better.</li> <li>• Carry over: <math>&lt;0.05\%</math> or better.</li> <li>• Auto sampler with provision of washing between injections with variable injection volume</li> <li>• Should be supplied with maintenance kit, syringe and supply of at least 100 or more sample vials of standard size capacities with caps and septa.</li> <li>• Should have capacity to detect missing vials/well in the plates by an auto sensing system.</li> </ul>	<p><b>2B. Auto sampler</b></p> <ul style="list-style-type: none"> <li>• The auto-sampler should work with injection volume range of 0.01 to 500 <math>\mu\text{l}</math> with possibility of 1<math>\mu\text{l}</math> increment or better.</li> <li>• Vial tray holder should have option for 60 vials or more of 2ml.</li> <li>• Injection Reproducibility/precision: RSD <math>&lt;0.3\%</math> or better.</li> <li>• Carry over: <math>&lt;0.05\%</math> or better.</li> <li>• Auto sampler with provision of washing between injections with variable injection volume</li> <li>• Should be supplied with maintenance kit, syringe and supply of at least 100 or more sample vials of standard size capacities with caps and septa.</li> <li>• Should have capacity to detect missing vials/well in the plates by an auto sensing system.</li> </ul> <p>-- <b>quote price separately</b></p>
<p><b>2C. Column Oven</b></p> <ul style="list-style-type: none"> <li>• Should have provision for housing at least two or more columns of 30 cm length.</li> <li>• Temperature setting range: Ambient- 60°C or better</li> <li>• Operating temperature: Ambient to 60°C or better</li> </ul>	<p><b>2C. Column Oven</b></p> <ul style="list-style-type: none"> <li>• Should have provision for housing at least two or more columns of 30 cm length.</li> <li>• Temperature setting range: Ambient+5 to 60°C or better</li> <li>• Operating temperature: environmental condition up to 35 °C</li> </ul> <p>-- <b>quote price separately</b></p>
<p><b>2D. Columns:</b></p> <ul style="list-style-type: none"> <li>• C-18 1No. (SS, C-18, 150mm x 3 mm particle size 3.5 micron)</li> </ul>	<p><b>2D. Consumables: Columns</b></p> <ul style="list-style-type: none"> <li>• C-18 1No. (SS, C-18, 150mm x 3 mm particle size 3.5 micron)</li> </ul>



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	<ul style="list-style-type: none"> <li>Amine Column 1 No. for carbohydrate analysis (ss, amine column, 250 mm x 4.6 mm particle size 5 micron)-1 No -- <b>quote price separately</b></li> </ul>
<b>2E. Evaporative Light Scattering Detector</b>	<b>2E. Evaporative Light Scattering Detector (ELSD) /Charge Aerosol Detector (CAD)</b> Quote either ELSD or CAD detector Software for control and data acquisition should be provided -- <b>quote price separately</b>
<b>2F. Newly added</b>	<b>2F. Nitrogen generator with compressor and UPS</b> <ul style="list-style-type: none"> <li>Branded (to be approved by the technical committee) Nitrogen Generator with compressor suitable for ELSD or CAD detector with half-an hour power backup -- <b>quote price separately</b></li> </ul>
<b>3A. Hardware</b>	<b>3A. Hardware</b> i) Computer of standard make should be supplied with mentioned specification: Processor: i5 or higher version; 8GB RAM, 1TB hard higher drive or better; DVD Read Write Drive, LED color monitor (21"); 101 keys key board, Mouse and Mouse Pad; with latest version of windows (Genuine) based operating software;-1No -- <b>quote price separately</b>
<ul style="list-style-type: none"> <li>Multifunctional Laser Jet Printer-1No.</li> </ul>	ii) <b>Printer</b> <ul style="list-style-type: none"> <li>Multifunctional (wifi enabled, color, scanner) LaserJet Printer-1No. -- <b>quote price separately</b></li> </ul>
<ul style="list-style-type: none"> <li>5 KVA UPS-1No along with suitable sealed maintenance free batteries with 30 minutes backup</li> </ul>	iii) <b>Uninterrupted power supply (UPS)</b> 5 KVA UPS-1No along with suitable sealed maintenance free batteries with 30 minutes backup -- <b>quote price separately</b>
<b>3B. Software</b>	<b>3B. Consumables: Software</b> <ul style="list-style-type: none"> <li>The software should be original and authenticated with Part No.</li> <li>GPC option must be included.</li> <li>Should have option for versatility for multitasking without multiple software packages</li> <li>Should have option for data integrity along with advanced security measures</li> </ul>
<b>3C. Comprehensive Warranty</b>	<b>3C. Comprehensive Warranty</b> <ul style="list-style-type: none"> <li>3 years from the date of Installation (with Spares and Consumables)</li> </ul>



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	Note: If the OEM warranty is for 12 months, additional extended warranty of two years should be quoted separately with or without price.
<b>3D. Terms and conditions:</b> <ul style="list-style-type: none"> <li>The equipment should be moved/reinstalled to new campus at free cost.</li> </ul>	Mentioned below the technical items
<b>3E. Optional Item: Quote following items price individually</b> <ul style="list-style-type: none"> <li>At least two-channel UV-vis detector (190 – 900 nm)</li> </ul>	<b>3E.</b> i) At least two-channel UV-vis detector (190 – 700 nm)- <b>quote price separately</b>
<ul style="list-style-type: none"> <li>Annual maintenance contract amount for next 5 years after 3 years of warrantee should be quoted</li> </ul>	ii) Annual maintenance contract amount for next 5 years after 3 years of warrantee should be quoted- <b>quote price separately</b>
<b>Newly added</b>	iii) Quaternary pump (The pump should be operable both in isocratic and gradient mode. The flow rate should be within a range from 0.001 to 10 ml/min with the possibility of increment of 0.01 ml/min or better. Flow Precision: $\leq 0.1\%$ RSD or better. Flow Accuracy: $\pm 1.0\%$ or better. Max. Operating pressure: 5800 psi or better upto 10ml/min.- <b>quote price separately</b>
<b>Newly added</b>	iv) Manual Injector (Rheodyne injector with Loops (two each) sizes of 20 $\mu$ L, 50 $\mu$ L, 100 $\mu$ L, 200 $\mu$ L, and 500 $\mu$ L)- <b>quote price separately</b>
<b>Terms and conditions:</b> <ul style="list-style-type: none"> <li>Price for all the individual items from 1A to 1F, 2A to 2F, and 3A to 3E should be quoted individually by the bidders failing which the bid submitted may likely be rejected without any notice.</li> <li>Institute has the right to reject the quotation and to split up the requirements or change any or all the above conditions without assigning any reason.</li> <li>The equipment should be moved/reinstalled to new campus at free cost without any extra cost as &amp; when asked by the institute.</li> </ul>	

Other terms and conditions of the tender document will be remain unchanged. Tender document and corrigendum can be downloaded from CPPP website [www.eprocure.gov.in](http://www.eprocure.gov.in) or INST website [www.inst.ac.in](http://www.inst.ac.in) .

Sd/-  
Director, INST