INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076.

Ref. PR No. 1000053685 **RFx. No. 6100002803**

Item Description –<u>Preparatory High Performance Liquid Chromatograph (HPLC) system (Qty-01)</u>

Sr. No.	Item Description	Detailed Technical Specification	Technical Compliance (Yes / No)	Additional Information (if any)
1	**<u>General</u>**	An automatic computer controlled Semi-Preparative High-Performance Liquid Chromatograph (HPLC) system equipped with a suitable high pressure binary Solvent Delivery Pump with manual sampler, Column holder, DAD Detector & fraction collector capable of working for purification level up to flow rate of 50 ml/min. It should be supplied with DAD Detector which will be useful for unknown sample purifications. It should provide error-free programming of pump parameters including flow rates, operating pressure limits, compressibility compensation, calibration. Must be manufactured, supplied, and installed by a single vendor to provide seamless integration between all the modules		
2	**<u>Pump – Quaternary</u>**	i. High pressure binary mixing ii. Flow rates 0.01-50 ml/min iii. Flow rate accuracy < + 1% iv. Flow rate precision: ≤0.3 % RSD v. Max. Operating pressure: 6092 psi or more vi. Delay Volume: 900uL or less vii. Composition precision: ≤0.5% RSD		

		viii.	Software initiated purge function		
		ix.	Capable of working in both isocratic and gradient operations		
		x.	Settable composition range: 0 to 100% in 0.1% increment		
		xi.	Safe leak handling		
3	**<u>Injection system Manual sampler</u>**	i.	Injection Volume Range: 20uL,200 uL,5mL		
		ii.	2- Sample loop must be adjustable as per requirement		
4	**<u>Column Holder</u>**	i.	Should accommodate minimum 2 Prep Columns of 30 Cm		
		ii.	2- Compatible with pump and detector.		
5	**<u>Software and hardware</u>**	i.	Software should be latest, genuine, and original with Part Number		
		ii.	2- Single Point Control for complete system including all modules, acquiring, processing, and reproducing the data		
		iii.	Real time triggers to react to the condition i.e., to act on Fault, Leakage, Stop, Start, wavelength switching, injection etc.		
6	**<u>Diode Array Detector</u>**	i.	Detection type: 1024 photo diodes or more		
		ii.	Wavelength range 190-950 nm or more		
		iii.	Light source: Deuterium lamp & Tungsten Lamp		
		iv.	Wavelength accuracy: ± 1 nm		
		v.	Linearity range: ≤5% at 2AU		
		vi.	Noise: <1.0x10-5 AU at		
		vii.	Drift: <1.0x10-3 AU/Hr or better		
		viii.	Peak purity software		
		ix.	Diode width/Resolution: < 1.2 nm		
		x.	Flow cell: 10mm path length, 10 to 15 ul volume (Analytical standard)		
		xi.	Preparative flow cell option must be available with SS 3mm path length		

		xii. Temperature control for complete optical unit xiii. Data rate up to 120 Hz or better.		
7	**Additional Feature**	The system should have the provision for complete up gradation (module and system wise) capability in future.		
8	**Prep Fraction Collector**	i. Delay Volume: Fraction collection inlet to diverter valve around 500 ii. Maximum system flow: 100ml/min iii. Maximum collection volume: 45ml iv. Maximum capacity: 3 fraction collectors in parallel v. Trigger mode: Time slices, peak thresholds, combination of time interval and peak vi. Tray holding more than 200 tubes of 7ml vii. Tray holding more than 60 tubes if 35 ml		
9	**Desktop PC and Printer, UPS**	i. System Must be supplied with Branded Compatible Desktop PC. ii. 5 KVA UPS with minimum 30 minutes back must be supplied with system.		
10	**Software**	One software support, software should be capable of controlling system and data processing.		
11	**Manufacture/Make**	All the modules of HPLC like Pump, Detectors, column holder, software should be from same/single manufacturer.		
12	**User**	Vendor should have installation of quoted model at Central/State Govt. Academic/Research Institute. (As per Format- 2)		
13	**Warranty**	Instrument should be supplied with standard 1-year standard warranty.		