Technical Specification for High Performance Liquid Chromatography		
Sl. No	**Component**	**Specification**
1	**Vendor eligibility criteria**	1. A list of at least 3 Institutions/R&D units/Industries where similar instruments have been supplied in India, including contact details (name of the person-in-charge, email, and phone number), should be provided. 2. The quoted model's three performance certificates in reputed institutions in India should be enclosed duly signed and stamped by the concerned scientist.
2	**Warranty and others.**	1. Minimum 3 years warranty with 2 years free service 2. On-site training for the operation of the hardware and software systems should be included. 3. Required gas cylinder, purification panel and regulators to be quoted**.**
3	**General Features**	1. System should be designed and manufactured under ISO-9001. The chromatography data system should be based on of HPLC Microsoft Windows operating system for instrument control, data acquisition and data analysis. 2. Complete Quaternary Gradient HPLC System (analytical) with Auto sampler, Photo Diode Array Detector, Chromatography Software, and Column Switching Valve (as optional) should be offered as per the below specifications.
4	**Solvent Delivery Unit**	1. Quaternary gradient solvent delivery system 2. Flow rate setting range: ≥ 0.01 to 10 mL/min. 3. Flow rate accuracy ±1%. 4. Flow rate precision ±0.06% RSD. 5. Maximum pressure setting range 400 bar or above 6. Composition precision: 0.1% RSD. 7. It must have a leak sensor as safety feature. 8. Suitable gradient mixer, reservoir tray and rinsing kit for pump washing should be offered.
5	**Degassing Unit**	Online membrane vacuum degasser unit having 4 lines for quaternary gradient should be offered.
6	**Photo Diode Array Detector**	1. The wavelength range: 190 nm - 800 nm 2. Light Source: Deuterium (D2) lamp and Tungsten lamp 3. No of Diode elements: 1024 or more 4. Slit Width: 1.2 nm and 8 nm 5. Wavelength accuracy: ± 1 nm max. 6. Wave Length Precision: ± 0.1 nm max 7. Noise level: Less than 0.6 × 10-5 AU 8. Linearity: 2.0 AU (ASTM Standard)

		9. Drift: 5 × 10-4 AU/h 10. Flow cell Should be temperature controlled from 5°C above room temperature to 50°C 11. Flow Cell: Capacity: 10 µL, Pressure: 12 MPa Optical wavelength: 10 mm, 12. Functions: Contour output, spectrum library, MAX plotting 13. Suitable peak purity software 14. Auto threshold for peak purity 15. 3D Spectral contrast algorithm account for random system noise in spectral noise in spectral comparisons
7	**Auto sampler**	1. Number of sample capacity: Minimum 100 vials or more. 2. Injection precision: <0.3% in partial-loop mode or better. 3. Sample carryover: The Carry over must be below 0.01% or better, as lowest carryover is preferred for accurate analysis data. 4. Injection volume range: 1 to 100 µL. 5. Linearity: Correlation coefficient >0.9995 for 1 - 100 µL or better.
8	**Columns and Consumables**	1. Vials: 2 mL pack of 500 vials. 2. Filtration assembly consisting of sample filtration kit – one Nos. 3. Membranes [Type: Dual (Aqueous & Organic solvents)], (a)Size 13 mm diameter with Pore size 0.45 µ –Qty. 5 Pkt. (b)Size 47 mm of 0.45 µ, Pore size -Qty. –05 pkt. (c)Pre-filters –Qty. –05 pkt. (d)Solvent filtration kit –One No 4. C18, C8, and suitable guard columns (250 mm X 4.6 mm id, 5u) should be offered. 5. Column oven capable of accommodating 2 or 3 nos of column each having 30 cm length should be offered. 6. Column oven temperature control from 10 deg C below room temperature & up to 80 deg C should be offered.
9	**Computer specification**	1. Processor - Intel i5 (5th generation); RAM - 8 GB; Hard disk - 1 TB; Graphic Card; DVD writer; 17" TFT screen; LAN Port; USB 2.0, 4 Ports; Wi-Fi; Multimedia Keyboard; Optical Mouse, Rewritable DVD.

		2. Operating System: Genuine windows 10 ultimate with media and documentation and certificate of authenticity. 3. Preloaded latest licensed antivirus software. Printer: Laser printer monochrome with duplex printing and LAN port.