# TENDER SPECIFICATIONS FOR GAS CHROMATOGRAPH

Gas Chromatograph, Microprocessor based modular GC system with **Capillary column Injection Port** with **single Flow Line Advance Flow Controller (AFC)** and **High Sensitivity single FID Detector** system for operation on 220V /50Hz

- System should have large column oven with 15.8 ltr capacity and temperature range up to $400^0$C.
- System should have 20 step column oven temp. programming with rate setting of $-250^0$C to $+250^0$C.
- System should have fast column oven cooling with microprocessor rear vent control.
- System should have **Capillary Column Injection port** with flow line **Advanced Flow Controller (AFC)** for digital setting and control of carrier gas flow up to 100 ml/min.
- System should have 7-step flow programming capability with programming rate of up to +400 ml/min.
- System should have correction function to maintain constant column flow rate during temp programmed analysis.
- System should have large interactive Graphical User Interface (GUI) LCD display for easy setting of GC parameters and monitoring functions including chromatograms.
- System should have intelligent self-diagnostics functions validate the instrument before every sample injection.
- System should have Capability for installing simultaneously 3 injections ports and 4 detectors on single GC.

- **Flame Ionization Detector:**

- **High Sensitivity Differential Dual FID Detector System** with temperature range up to $400^0$C.
- Minimum detection limit for FID of 3 pgC/s for Dodecane with dynamic range of $10^7$
- Inert Quartz nozzle for FID reduces detector contamination.
- Max acquisition rate : 4 ms (250 Hz).
- System should have capability for automatic ignition and re-ignition of FID flame through keyboard & software.

- **Split / Splitless Injection Port, SPL:**

- Split / Splitless Injection Port should be with built-in **Advanced Flow Controller (AFC)** for digital setting and control of carrier gas pressure up 970 kPa and total carrier flow up to 1200 ml/min.
- System should have a capacity to carry out fast GC application with help of carrier gas pressure upto 970 kPa/ 142 psi and Nanobore ID column.
- Digital split ratio setting should be up to 9999.9.

- System should have a correction function to maintain carrier gas average linear velocity during temp programmed analysis for capillary columns.
- System should have compatibility to complete range of capillary columns 50 μm to 530 μm I.D.
- One Auto liquid injector with 12 Vial capacity should be provided by vendor.
- Gas purification panel with filled gas cylinder required for GC operation should be provided by vendor.
- Two general purpose capillary column (Mid and non-polar capillary L × I.D./ 30 m × 0.25 mm) should be provided by vendor.
- Please include the list of minimum 10 users in nearby Wardha.