

**The Director,
Computer Centre
Aligarh Muslim University
Aligarh-202002.**

Through: The Chairman, Department of Botany

Notice: Invitation for Tender of "Gas Chromatography System with Accessories"

Ref. No.:

Dated: August 22, 2013

The sealed tenders/quotations are required for: "Gas Chromatography System with accessories" along with price list, literature and compliance sheet of the items after necessary concession as it is an educational institution and this item is required for class and research work. Address the quotation to " **Dr. M. Masroor A. Khan, Principal Investigator, BRNS project, Department of Botany, Aligarh Muslim University, Aligarh-202002 (UP)**". The quotation should reach up to September 10, 2013 by 3:00 PM. After this time bound period, the quotation will not be entertained.

Specification for Gas Chromatography System

01. System Capabilities

Digital control of oven temperature to assure an unsurpassed and verified in the Fast GC analysis.

Electronic pneumatic control (EPC) system for all inlets & detectors.

Digital Pressure Control (DPC) that permits setting of the gas flow rates

GC should have capability to support upto 2 Inlets & 3 Detectors.

The GC should have advanced capability to monitor system resources (Electronic logs, Early maintenance feedback, counters etc.)

System should have facility to incorporate gas sampling & column switching valves whenever required.

02. Colum Oven

a. Accommodates up to two 100 m × 0.530 mm id capillary columns

b. Operating temperature range suitable for all columns and chromatographic separations.

Ambient temperature +4 °C to 420 °C.

c. Supports 18-20 oven ramps with 21 plateaus. Negative ramps should be allowed.

Maximum achievable temperature ramp rate: 110 °C/min

d. Oven cool down from 450 to 50 °C in 4 to 5.0 minutes.

03. Split / Split less Capillary Inlet

a. Suitable for all capillary columns (50 µm to 500 µm id).

b. Splitless mode for trace analysis

c. Maximum temperature upto 400 °C.

d. Split less ratio upto 6000:1 to avoid column overloading.

04. Flame Ionization Detector.

- a. Minimum Detection Limit(for tridecane) : <1.5 pg C/sec
- b. The linear dynamic range: 10^6 to 10^7 ($\pm 10\%$,)with N₂ carrier
- c. The detector should have a Data acquisition rate of 450 Hz or more.

05. AutoSampler.

- a. The system should have provision for automatic injection of samples.
- b. Auto sampler should consist of Injection tower & sample tray.
- c. Fully programmable dispense rate, draw rate & injection rate.
- d. Should have facility of multi injection mode. (1 -99 Injections)
- e. Better than 0.3 % RSD.
- f. Auto sampler should have minimum 15 sample capacity. It should be upgradable further to accommodate 100 or more samples whenever required

06. Chromatographic Data Software:

- a. Single point control of all GC and its modules, customizable reports, GLP features should also have software for data acquisition, control, chromatographic data evaluation, porting sequencing,
- b. Suitable software's provide with GC for data acquisition, evaluation and analysis operating system compatible to standard computer
- c. During data acquisition, it is possible to visualize and reprocess previous analyses, prepare the methods for subsequent analyses and run other programs.

07. System should have provision for upgradable with MS Detector.

08. System must be provided with PC, Printer & Online UPS required to run the GC system

(Dr M. Masroor Akhtar Khan)

Principal Investigator &

Associate Professor

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