DEPARTMENT OF CHEMICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI – 600036, INDIA

Ref. No. CHE/14-15/128/CHCX/RVIN **Date: 7 Nov. 2014**
Due date: 28 Nov. 2014

Item: Gas Chromatograph with Flame Ionization and Thermal Conductivity Detectors

1. Quotations are invited in duplicate for the items shown overleaf (in Annexure I). The quotations duly sealed and superscribed on the envelope with reference no. and due date, should be addressed to the undersigned so as to reach on or before the due date mentioned above.
2. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
3. The total cost of the equipment in terms of CIP Chennai should be clearly mentioned.
4. Terms of warranty and guarantee should be explicitly mentioned.
5. Packing and delivery charges, customs and clearance duty should be clearly stated.
6. Goods shall not be supplied without an official supply order.
7. Local firms : Quotations should be for free delivery to this institute. If quotations for ex-godown delivery charges should be indicated separately.
8. Firms outside Chennai: Quotations should be for F.O.R. Chennai. If F.O.R. consignor station, freight charges by passenger train / lorry transport must be indicated. If ex-godown, packing, forwarding and freight charges must be indicated.
9. The rate of sales / general taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim for sales / general taxes will be admitted at any stage and on any ground whatsoever. The taxes leviable should take into consideration that we are entitled to have Concessional Sales Tax (CST) applicable to non-government educational institutions run with no profit motive for which a concession sales tax certificate will be issued at the time of final settlement of the bill.
10. Payment : Specify the mode of payment and if advanced payment has to be made. Every attempt will be made to make payment within 30 days from the date of receipt of bill / acceptance of goods, whichever is later.
11. IIT Madras is exempt from payment of excise duty and is eligible for concessional rate of customs duty. Necessary certificate will be issued on demand.
12. IIT Madras has the right to accept the whole or any part of the tender or portion of the quantity offered or reject it in full without assigning any reason.
13. In case of any queries/clarifications, please contact Dr. R. Vinu, Chemical Engineering, IIT Madras, Chennai, E-mail: vinu@iitm.ac.in.
14. The sealed quotation may be sent to

    Dr. R. Vinu
    Dept. of Chemical Engineering, IIT Madras
    Chennai – 600036
    (P) +91-44-22574187

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Annexure I

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Technical Specifications for Gas Chromatograph with Flame Ionization Detector and Thermal Conductivity Detector (GC-FID/TCD)

Scope/application: Analysis of hydrocarbons, gases like H_2, N_2, CO, CO_2, and organic liquid samples

Split/Splitless injection port for capillary column and Packed Purged Injection Port for packed columns with electronic pneumatics control

Capillary column port should be compatible with all standard dimensions of capillary columns

Packed column port should be compatible with 1/4", 1/8" and 1/16" packed columns

Thermal conductivity (max temp. 400 ^oC) and flame ionization detectors (max temp. 400 ^oC) with control modules

Two separate injection ports, one port connected to FID and the other to TCD

Gas saver mode should be available

Autosampler – Not required

Column operating range - ambient to 400 ^oC

Column oven temperature set point resolution: 1 ^oC

Columns: Capillary column (HP-PLOT Q or equivalent, 1 no.), packed column (Molsieve or equivalent for permanent gases, 1 no.)

Retention time repeatability - <0.1%

Peak area repeatability - < 5% RSD

Include gas tight syringe (500 µL volume)

Standard consumables kit including liquid injection syringes (10 µL, 1 µL), column nuts and ferrules, low bleed column septa, SSL liner

Gas purification panel for N_2, O_2, H_2 and He with 1/8” tubing, nuts and ferrules

Power supply: 230 V, 50-60 Hz, Indian socket

Include desktop/laptop computer with preloaded instrument software

Include software, instruction manual, startup kit and CD separately

Optional items: gas cylinders with high purity gases, regulators, calibration gases/gas mixture: CO, N_2, H_2, CO_2, CH_4