

**OFFICE OF THE DEAN: COLLEGE OF AGRICULTURE  
G.B.PANT UNIVERSITY OF AGRI. & TECH., PANTNAGAR-263145  
(U.S.NAGAR) UTTARAKHAND**

**TENDER FOR THE SUPPLY OF GAS CHROMATOGRAPHY SYSTEM.**

**Last date of submission: 07/07/2017 at 5:00 PM**

**Opening date: 08/07/2017 at 11:00 AM**

“PLEASE CAREFULLY GO THROUGH THIS DOCUMENT AND ENSURE COMPLIANCE IN TOTALITY. NON-COMPLIANCE OF ANY ONE OF THE CONDITIONS OR CANVASSING MAY MAKE YOUR OFFER INVALID”

**Part (A): Technical Bid**

“Please furnish the following information in this part so as to enable the panel to decide about the qualification in the Technical Bid. Necessary valid documents/certificates from the appropriate authority must be attached sequentially in support of statement at serial ‘4’ to ‘16’ below.

For qualification criteria, the tenderers are required to have supplied a specified quantity or for specified amount of supplies made during the last three financial years and the bidders have to furnish an authentic certificate from their clients in support of satisfactory performance.

Tenderer’s reference No. \_\_\_\_\_ Date \_\_\_\_\_

1. Application for the supply of \_\_\_\_\_

2. Name of the tenderer: \_\_\_\_\_

Address \_\_\_\_\_

3. Contact: (A) Telephone No. \_\_\_\_\_ (B) Mobile \_\_\_\_\_

(C) Fax No. . \_\_\_\_\_ (D) e-mail \_\_\_\_\_

4. Earnest Money (must be attached with technical bid: **To be filled in separate prescribed proforma in separate envelope\* see page no. 12**  
in a sealed envelope)

(a) FDR/TDR No. & date only \_\_\_\_\_  
**(do not mention amount)**

5. Status of the applicant  
(Whether manufacturer / authorized Indian Agent/Subsidiary of a foreign manufacturer as per tender notice. (A specified and valid certificate must be submitted) \_\_\_\_\_

6. Manufacturing license No. & date \_\_\_\_\_

7. Sales tax registration No. & date \_\_\_\_\_

8. Income tax P.A.N. No. \_\_\_\_\_

9. ISO/ISI award letter No.  
(In case it is awarded to the firm)

\_\_\_\_\_

(1)

10. Turnover : (last 3 year) 2014 – 2015  
2015 – 2016  
2016 – 2017

Rs. \_\_\_\_\_

Rs. \_\_\_\_\_

Rs. \_\_\_\_\_

(attach balance sheet/audited CA certified)

11. Please indicate if you are on Rate Contract with DI/DGS&D, if so please provide the reference of the same along with validity.

\_\_\_\_\_

12. (a) Country of origin of equipment, if imported  
(b) Indigenous

\_\_\_\_\_

\_\_\_\_\_

13. Please certify that you are not blacklisted by any department of Central/State Govt. or Pantnagar University or any Public Institution (attach notarized affidavit worth Rs.100.00)

an affidavit on Non-Judicial stamp paper is to be attached duly notarized

\_\_\_\_\_

14. Details of major clients (to be enclosed) **for the last three years only.**

\_\_\_\_\_

15. Detail of single largest order complied during last year (**only one order has to be given**)

(a) Name of client & address

\_\_\_\_\_

(b) Amount

\_\_\_\_\_

16. Quantum of supplies to G. B. Pant University during last year.

\_\_\_\_\_

17. Indicate the after sales service available (Especially in UTTARAKHAND)

(a) No. of Engineers and other technical staff

\_\_\_\_\_

(b) No. of Venders

\_\_\_\_\_

(c) No. of Service stations and their locations

\_\_\_\_\_

18. Please enclose Schedule of Quantity attached with the tender for quoting technical specifications of the product (with out rates) for which tender rates are submitted.

**PLEASE DO ATTACH THE FOLLOWING DOCUMENTS IN "INDEX MANNER": -**

1. Earnest Money (FDR, TDR, DD & Bankers cheque only).
2. Manufacturing license from appropriate authority.
3. Authority letter from the manufacturer in case of dealers/distributor.
4. Instructions to the tenderer must be attached duly signed & stamped by the tenderer.
5. Sales tax/VAT registration certificate.
6. Central Sales Tax/VAT registration certificate if any.
7. Latest sales tax return.
8. DGS&D rate contract copy, if any.
9. Year- wise turn over for the last three-years supported by pertinent portion of balance sheet duly authenticated by C.A./ Competent authority or Certificate of CA for the year wise turn over of desired years.
10. Terms & conditions duly signed by the tenderer.
11. Any other literature or information the applicant desires to furnish.
12. Notarized affidavit regarding non-blacklisting.

**NOTE:**

**Before sending/submitted the tender, the tenderer should read carefully, the attached terms & conditions, special conditions, instructions to the tenderer and fill all the columns of technical and financial bid. *EXTRA DOCUMENTS OTHER THAN THE ASKED FOR SHOULD NOT BE ATTACHED.***

Signature of issuing authority

*Signature of the applicant  
With seal*

*Dean College of Agriculture*

**OFFICE OF THE DEAN: COLLEGE OF AGRICULTURE  
G.B.PANT UNIVERSITY OF AGRI. & TECH., PANTNAGAR-263145  
(U.S.NAGAR) UTTARAKHAND**

**GENERAL TERMS & CONDITIONS**

(Jurisdiction- Udham Singh Nagar)

1. Sealed tenders are invited by the **Dean College of Agriculture**, G.B. Pant University of Agri. & Tech., Pantnagar (Udham Singh Nagar) for supply of **Gas Chromatography System**.
2. (For a two bid tender) Technical Bid (consisting of specifications & EMD only)& Financial Bid will be received in two separate sealed envelopes. Both the envelopes will then be put into one big envelope & sealed properly super scribing “Technical & Financial Bids” for the supply of **Gas Chromatography System** due on date **07/07/2017**
3. (a) The envelope containing Technical Bid should be superscribed “Technical Bid for the supply of [Name of stores] **Gas Chromatography System**.  
(b) The envelope containing Financial Bid should be super scribed “ Financial Bid for the supply of [Name of stores] **Gas Chromatography System**.
4. Rates quoted should be F.O.R. destination. The rates must include packing forwarding and transit insurance charges. The same should be insured against theft, loss or breakage during transit by the supplier before dispatch is made. The responsibility in this respect will be of the supplying firm and not of the University.
5. Supply of the goods is acceptable on bill basis only. **R.R./documents through bank are not acceptable**.
6. Payment shall be made within 30 days from the date of receipt of goods in proper/ satisfactory/ working conditions.
7. The tenderer should clearly indicate if they agree for Rupee term payment or payment by Sight draft or L/C (to be established on the basis of 60:40 %) and if so give a complete detail thereof. Special conditions & codal formalities for import of stores shall be applicable.
8. Tender documents must be submitted consisting of notice inviting tender, tender form (technical and/or financial), general terms & conditions of supply, **interactions** to the tenderer, special conditions if any, schedule of quantities duly filled, completed & signed by the tenderer.
9. Tenders should be addressed to the **Dean College of Agriculture, G. B. Pant University of Agri. & Tech., Pantnagar- 263 145 (U.S. Nagar) Uttarakhand**, duly sealed properly.
10. Tenders will be received by the undersigned up to **5.00 P.M** on **07/07/2017** and Technical Bid will be opened on **08/07/2017at 11.00 A.M.**

11. \*The tender should be submitted along with a demand draft or fixed deposit receipt or Bankers cheque in favour of **Comptroller, G.B. Pant University of Agri. & Tech., Pantnagar payable at SBI/PNB/UCO/UNION Bank, Pantnagar only**. Amount of bid security should ordinarily range between 2% to 5%. The given percentage will depend on the total cost of the goods/items as follows:-
- (i) **Upto Rs. 1 lakh – 5%**
  - (ii) **Rs. 1 lakh to 5 lakh – 4%**
  - (iii) **Rs. 5 lakh to 25 lakh – 3% and,**
  - (iv) **Above Rs. 25 lakh – 2% shall be charged**
- Tender without proper earnest money shall not be considered. **No Cheque shall be accepted.** Earnest Money deposited earlier, if any, shall not be considered. The FDR should be drawn from the account of tendering firm.
12. In terms of note 2 (3) to rule 273 of GFR, Bid Security will be liable to be forfeited, if the tenderer withdraws or amends/ impairs or derogates from the tender in any respect within the period of validity of his tender.
13. In case of equipments, the successful bidder should furnish 5% value of purchase order as performance security in the name of **Comptroller, G.B. Pant University of Agri. & Tech., Pantnagar**, for the performance of the equipment/ stores during the whole period of **36 Months Warranty/Guarantee. (Only on site warranty will be accepted).**
14. The purchaser has the right to forfeit performance security in case of any breach of contract committed by the supplier.
15. The supplier will have to attach a certificate to the effect that the material to be supplied will be of the specifications conforming to standard of the item specified in the attached schedule.
16. Supply of ordered material should be/ required to be completed within stipulated date/ time from the date of issue of firm order failing which the University reserves the right to forfeit the earnest money and cancel the order. Part supply shall not be accepted **normally however in genuine cases**, permission may be granted.
17. The supplier should quote clearly in figure and words the rate and amount tendered by him. The amount of each item should be worked out & requisite totals given including all charges F.O.R. destination.
18. Trade/Sales tax/Vat or any other tax or other charges on the material, which has not been mentioned while quoting their rates, shall not be paid by the University under any circumstances.
19. The terms & conditions given by the supplier will not be binding on us. Conditional tenders shall be rejected at the sole discretion of the competent authority of the university.
20. The manufacturer should mention their address of manufacturing unit so that the site may be inspected, if required.
21. In case of supply order being placed on you:  
“As time is the essence of this order, the date of delivery should be strictly adhered to otherwise the University reserves the right not to accept delivery in part or full and claim the liquidated damages 1% per week subject to a maximum of 10% of total value of the supply order.”
22. A tenderer shall not submit more than one tender for the same set of goods.
23. The tenderer shall at all times indemnify the purchaser, at no cost to the purchaser, against all third party claims of infringement of patent, trademark or industrial design rights arising from the use of the goods or any part thereof, with respect to the goods quoted by the supplier in its offer.

24. The tender so submitted shall be governed by the laws of India and be interpreted in accordance with such laws.
25. Any dispute arising in process of the tender, the matter shall be referred to the sole arbitrator who in such cases shall be the Vice-Chancellor, G.B. Pant Univ. of Agri. & Tech., Pantnagar, and whose verdict shall be binding on both the parties.
26. The tenderers may be called for technical discussions by the Central Purchase Committee duly constituted or nominated by the Competent Authority of this University.
27. The tenderer must supply a three-dimensional drawing of the instrument, which they proposed to supply along with the relevant **literature in original**.
28. The acceptance of a tender will rest with the University who does not bind itself to accept the lowest tender and reserves itself the authority to reject or partially accept, any or all the tenders received without assigning any reason.
29. The University reserves the right to place order for the scheduled quantity and/or part thereof.
31. Tenders are likely to be rejected in case the same are not conforming to the laid down terms and conditions.
32. The tenders may be dropped in the Tender Box kept in the office of Dean College of Agriculture by due date & time. The tender may also be sent/submitted through post/courier. The tenders received after due date & time are liable for rejection. The University shall not be responsible for receipt of tenders after due date, due to postal delays or any other reason, whatsoever.
33. The validity of rates shall be 180 days from the date of opening of technical bid/offer.
34. The supplier should invariably incorporate **guarantee/warranty** clauses in his offer wherever applicable. While incorporating G/W clause, nature & duration should be specifically mentioned.
35. If during the currency of the contract, the price(s) of the contracted stores falls, the supplier shall have a binding to charge the prevailing lower rates against the higher contract price. However, the purchaser is not liable to compensate the supplier any hike in the contract price during the contract period.
36. Free replacement will be made against defective/damaged supplies by the firm/supplier at their own cost & risk at user's site.
37. Supplies will be strictly as per brand/specifications as specified in the rate contract. Container and product must bear the brand name, lot no., batch no., date of manufacturing and date of expiry, etc., as the case may be. Substandard supplies shall be rejected out rightly and the supplier shall be held responsible to make good the loss so incurred and that the University shall take necessary action against the firm/supplier, as deemed fit.
38. The consignment shall be booked always in favour of consignee only and as per instructions mentioned in the purchase order.
39. Bulky tenders which can not be dropped in the tender box will be accepted by the head of the office or his authorized representative and receipt issued.
40. For all items, the financial bid shall be opened only for those firms whose technical bids recommended by the indenter/technical committee and found to be as per specifications, terms & conditions of the tender asked for (in case of two bid system only).

41. In case the due date is declared a holiday, the tender shall be opened on next working day at the same time.
42. The tenderer must ensure that all the entries are made by one person, using same ink and without any cutting and over writing. If there is any cutting, it should be countersigned.

I have read the above terms & conditions and the instructions attached herewith and understood them carefully and agree to abide by the same.

**Signature of Tenderer  
with seal**

43. Certified that we have downloaded the tender documents from University Web Site. The tender fee of ₹ 2,000.00 +VAT 14.5%= ₹ 2,290.00 is enclosed in shape of Bank Draft No..... date..... drawn in favour of **Dean College of Agriculture, payable at SBI/PNB/UCO/UNION Bank, Pantnagar only.**

**Signature of tenderer  
With seal**

**OFFICE OF THE DEAN: COLLEGE OF AGRICULTURE  
G.B.PANT UNIVERSITY OF AGRI. & TECH., PANTNAGAR-263145  
(U.S.NAGAR) UTTARAKHAND**

**SPECIAL CONDITIONS FOR IMPORTED EQUIPMENTS  
(Jurisdiction- U. S. Nagar)**

THE TENDERERS ARE REQUIRED TO GO THROUGH CAREFULLY, THE FOLLOWING SPECIAL CONDITIONS OF SUPPLY ON IMPORT OF EQUIPMENT BEFORE SUBMITTING THEIR OFFER.

1. The Indian Agent of foreign manufacturer must be registered with DGS&D or concerned department of Govt. of India.
2. The university is exempted from payment of custom /excise duty. However, Concessional Custom Duty levied by G.O.I. is paid on import of equipments.
3. The validity of Proforma invoice should be at least 180 days (also applicable for indigenous equipments) from the date of opening of tender.
4. The foreign suppliers shall indicate the Agency commission separately on the Proforma Invoice Form 237 of DGS&D having details of discloser of Agency commission and it should be invariably attached with the Proforma Invoice.
5. The payment of agency commission to Indian Agent of foreign manufacture is payable in Indian currency as per standing instructions of Ministry of Finance G.O. No.F-23(I)-E II(A)/89 dt. 31.01.89
6. The import of equipment is acceptable on FOB/CIF value.
7. The import may be allowed on CIF value in exceptional conditions at the discretion of University. In that case the charges on Freight and insurance should be shown separately.
8. The Freight & Insurance charges should not exceed 5% of the FOB value in any case.
9. If the supply is made on CIF value the Insurance shall be from ex-works to destination at GBPUA&T, Pantnagar (Distt. U.S. Nagar) Uttarakhand.
10. Shipment should be made strictly through university's authorized Freight forwarder as will be mentioned in the purchase order/Letter of Credit.
11. The University does not allow trans shipment or/and part shipment.
12. In case of replacement/ short supplies, all the charges like Freight Insurance, Custom Duty and clearance shall be borne by the supplier themselves.
13. No other charges beyond the value of Proforma Invoice shall be paid by University in any case.
14. Prices must be quoted strictly in Foreign Currency on CIF & FOB basis and submitted on original foreign Manufacturer's/Supplier's Proforma Invoice/quotation. Prices quoted in Indian Currency for foreign products are to be rejected.



## **Mode of Payment**

15. In case of import of goods, payment shall be preferred through sight draft. A photo copy of D/D shall be dispatched along with Purchase order.
16. Payment may also be made through Letter of Credit. In this case Irrevocable Letter of Credit shall be opened for 100% value of FOB value, however 60% cost of FOB value excluding agency commission shall be made against shipment of document negotiated through Bank and balance 40% shall be released after satisfactory installation report of the equipment from the indenter. Following sub condition shall be applicable in case of payment through L/C.
- (a) All Bank charges inside and outside India shall be on beneficiary's account i.e. tenderer shall have to bear such charges.
  - (b) All amendment charges, in the L/C if any shall be on beneficiary's account.
  - (c) Agency commission will be paid by the indenter in Indian currency at prevalent exchange value after delivery and satisfactory installation of the equipment. The bill of the same will be submitted by the Indian Agent accordingly.

I/We agree to abide by the terms and conditions.

**Signature of Tenderer  
With Seal**

**OFFICE OF THE DEAN: COLLEGE OF AGRICULTURE  
G.B.PANT UNIVERSITY OF AGRI. & TECH., PANTNAGAR-263145  
(U.S.NAGAR) UTTARAKHAND**

**INSTRUCTIONS TO THE TENDERERS**

30. 1.Tender should be addressed to the **Dean College of Agriculture, G.B. Pant University of Agri. & Tech., Pantnagar, Distt Udham Singh Nagar, Pin – 263 145, Uttarakhand** and be sent in a properly sealed cover. The tender should be sent in an envelope superscribed as “**Tender for the supply of Gas Chromatography System consisting of Technical bid & Financial bid both in two separate envelops due on 07/07/2017 at 5.00 p.m.**”
2. The stores offered should be strictly according to the brand / specifications as mentioned in the tender documents.
3. Earnest Money as per conditions stipulated shall be deposited along with the tender / technical bid in the shape of an FDR/TDR, duly pledged in favour of the **COMPTROLLER, G.B.P.U.A.&T., PANTNAGAR**. Tender without earnest money will not be accepted. In case tender is not accepted for award of contract, the Earnest Money shall be refunded after its finalization. The FDR should be drawn from the account of the tendering firm otherwise tender shall be rejected. FDR/TDR issued in personal name shall not be accepted.
4. Tenders shall be received in the office of the **Dean College of Agriculture, G. B. Pant University of Agri. & Tech., Pantnagar (Distt Udham Singh Nagar, Pin – 263 145)** Uttarakhand & opened as per schedule given in the notice in presence of the tenderers or their representative who may like to be present at the time of opening of the same.
5. The tenders may be dropped in the Tender Box kept in the office of the undersigned and the same may also be sent by post/courier but the University will not be responsible for any postal delay or otherwise. Tenders received after the stipulated date & time are liable to be rejected.
6. Tender for each Equipment/Items of material as specified in the notice inviting tender/press notification is required to be submitted separately.
7. Firms black-listed by any of the department of Central/State Govt. or Pantnagar University need not to tender.
8. Interim enquiries or subsequent offers if any, will not be entertained.
9. The University is exempted from the Excise Duty and Custom Duty (concessional) for certain stores, the prices so mentioned in the tender, Excise/Custom Duty component should be indicated clearly.
10. Tenders, which do not fulfill all or any of the above conditions or found incomplete in all respect are liable to be rejected.
11. The Earnest Money shall be released only after satisfactory installation of Equipment/Items in all respect and as per the terms & conditions of the tender.
12. The acceptance of tenders rests with the Vice-Chancellor of the University who does not bind himself to accept the lowest tender & reserves the right to reject or partially accept any or all the tenders without assigning any reason whatsoever thereof .
13. A certificate of the Manufacturer/Indian Agent specifying their status may be submitted along with the tender without which the tenders are liable to be rejected.

14. The maximum rate of discount on the manufacturer's price list offered by the tenderer & the rates tendered may be indicated clearly in figures and words.
15. No overwriting or cutting on the prices is allowed; if so, certificate of the manufacturer to this effect may be attached with the tender.

I have read all instructions carefully and promise to abide by them during the period of contract.

**Signature of tenderer**  
**With seal**

**Date:-**

**OFFICE OF THE DEAN: COLLEGE OF AGRICULTURE  
G.B.PANT UNIVERSITY OF AGRI. & TECH., PANTNAGAR-263145  
(U.S.NAGAR) UTTARAKHAND**

**( \*EARNEST MONEY )**

**( TO BE SUBMITTED IN SEPARATE ENVELOPE WITH TECHNICAL BID )**

1. Amount: ( In Figure ): Rs.....

( In Words): Rs.....

2. Demand draft/F.D.R/TDR/Bankers cheque No: .....

dated.....

3. Name of Bank:.....

**Signature of Tenderer  
With Seal & Full Address**

**OFFICE OF THE DEAN: COLLEGE OF AGRICULTURE  
G.B.PANT UNIVERSITY OF AGRI. & TECH., PANTNAGAR-263145  
(U.S.NAGAR) UTTARAKHAND**

**TENDER FOR THE SUPPLY OF GAS CHROMATOGRAPHY SYSTEM.**

“PLEASE CAREFULLY GO THROUGH THIS DOCUMENT AND ENSURE COMPLIANCE. THE NON-COMPLIANCE OF ANY ONE OF THE CONDITIONS MAY MAKE YOUR OFFER INVALID”

**Part (B): Financial Bid  
(To be kept in a separate sealed cover)**

Tenderer's reference No. \_\_\_\_\_ Dated: \_\_\_\_\_

1. Application for the supply of \_\_\_\_\_

2. Name of the applicant: \_\_\_\_\_

Address \_\_\_\_\_

3. Telephone No. \_\_\_\_\_ Mobile \_\_\_\_\_

Fax No. \_\_\_\_\_

e-mail \_\_\_\_\_

4. Status of the applicant (Whether manufacturer/ dealers/distributors as per tender notice. (Certificate must be submitted). \_\_\_\_\_

5. Telephone No., Fax No., e-mail of foreign principals \_\_\_\_\_ Tel. Ph. \_\_\_\_\_

Fax No. \_\_\_\_\_

e-mail \_\_\_\_\_

6. Registration No. with DGS&D (in case, the authorized Indian agent of foreign manufacturers) \_\_\_\_\_

7. Country of origin of the equipment \_\_\_\_\_

Indigenous \_\_\_\_\_

8. Cost of equipment \_\_\_\_\_

(i) In Indian Rupee \_\_\_\_\_

(ii) In foreign currency \_\_\_\_\_

a. FOB value with currency \_\_\_\_\_

b. Insurance & freight charges \_\_\_\_\_

c. CIF value with currency \_\_\_\_\_

9. Mode of supply:

Direct by Tenderer

10. Validity of rates (period)  
(Preferably at least 6 months)

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11. Specify VAT :  
(A) Full VAT/CST

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(B) Concessional VAT/CST

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**NOTE:**

- (i) **Over writing in tender will not be accepted. Cutting if any should be properly signed by the tenderer.**
- (ii) **University is not bound to make any part payment if full supplies are not made at a time and make purchase on lowest quoted rates.**
- (iii) **The tenderer should enclose required certificates in the same order as mentioned above & serialize them accordingly, and fillip all columns of the tender documents strictly.**
- (iv) **Before sending/submitting the application/tender, the applicant should read carefully the attached terms & conditions and instructions sheet.**

**Signature of the Tenderer (Applicant)  
Name & Seal of the Firm**

**Schedule of Quantity for GAS CHROMATOGRAPH**

S. No.	Description	Quantity	Make & Full Specifications of items	Rates F.O.R. Destination		Taxes if any	Remarks
				In words	In figures		
1.	<p><b><u>Specifications for Gas Chromatograph</u></b></p> <ol style="list-style-type: none"> <li>Fully automated dual channel system</li> <li>Touch-screen/Keypad graphical user interface for instrument operation</li> <li>PPC or EPC or APC for injector &amp; detector with Twelve PPC/EPC/APC zone</li> <li>Carrier Gas Pneumatic program rates 0-100.0 psi/min/ 0-100.0 mL/min/0-200.0 cm/sec or ballistic</li> </ol> <p><b><u>GC Oven:</u></b></p> <ol style="list-style-type: none"> <li>Temperature range 10°C above ambient to 400 °C</li> <li>Heating rate approx. 1<sup>0</sup> C min<sup>-1</sup></li> <li>Cool down time from 250 °C to 50 °C is less than 6 minutes.</li> <li>Temperature program 3 ramps &amp; 4 plateaus</li> <li><b>Pneumatics Programmable Electronic control for injectors via software.</b></li> </ol> <p><b><u>Programmable Split/Splitless Inlet (PTV Inlet) :Qty- 1</u></b></p> <ol style="list-style-type: none"> <li>Split/ splitless injection port with built in PPC/EPC/SAFC flow</li> </ol>	01 No.					

controller for digital setting and control of carrier gas pressure up to 600kPa and above and total carrier flow up to 1000ml/min.

2. Split ratio easily adjustable for a wide range of analysis conditions
3. Charcoal trap in split vent for preventing contamination of split valve and lab air
4. 50 °C to 400°C.
5. Cooling down from 380 °C to 50 °C in less than 6 minutes, while the oven cooling in the same temperature range and with an FID at 380 °C.

**FID Detector: Qty-1**

1. FID should have air flow designed to minimize contamination and residue buildup
2. **Temperature range: up to 400°C**
3. **Min. detectable Quantity :  $3 \times 10^{-12}$  g C/sec or better**
4. **Linearity :  $10^6$  or better.**

**TCD Detector:Qty 1**

1. Operating temperature: up to 350 °C or more.
2. Minimum detectable quantity Typically <1ppm nonane.
3. Linearity >  $10^5$  or better
4. **Sensitivity: 9  $\mu$ V/ppm nonane at 160 mA at the bridge with a detector temperature of 100°C.**

**GC Software:**

**System should be quoted with original licensed software needed to control the system along with original CDs.** Single point control of all GC and its modules, customizable reports;



GLP features should also have software for data acquisition, control, chromatographic data evaluation, reporting sequencing etc.

Columns:-

**Capillary Column for GC:-**

1. Organo carbonates: HP 5 ms, 30 m x 0.25 mm x 0.25  $\mu$ m or equivalent
2. Neonicotinoids: HP 5 ms, fused silica capillary column or (30 m x 0.25 mm id, 0.25  $\mu$ m film thickness) or Equivalent
3. Methane: HP PLOT O 15 m x 0.53 mm x 40  $\mu$ m (film thickness) or Equivalent  
HP PLOT O 30m x 0.53 mm x 40  $\mu$ m or Equivalent

**For CO and CO<sub>2</sub>**

**First**

1. 1/8" OD, approx. 7" long, packed with 10 percent silicone. W-98 on chromosorb w, 0 to 100 mesh. Or Equivalent

**Second**

2. 1/8" OD, 10" long, column packed with Porapack O, 100 to 200 mesh.  
(These two column are set in a series) Or Equivalent

**Packed-column injector: Qty- 1**

1. Removable glass liner for trapping nonvolatile residues

2. Adapter for on-column injection to wide-bore capillary columns

3. Temperature : 50 °C to 450 °C

**Ethylene, Acetylene, Ethane, Methane:**

1. Elite O. Plot column with 30m x 0.32 mm or Equivalent
2. Elite U. PLOT column with 30 m x 0.32 mm or Equivalent

**Essential Accessories:**

1. H<sub>2</sub>, N<sub>2</sub> and Zero Air Gas cylinders, **double stage SS** regulators (imported) for each cylinder, purification panels with ISI marked regulators. All Indian items should be ISI Marked and cylinders be supplied with test certificate.
2. 5KVA On-line UPS with 30 mins back up.
3. Desktop and Printer: HP/ DELL PC (Intel Core I3, 4 GB RAM, 500/ 1TB HDD, 20-22" display T.F.T. screen, W/F LAN, Bluetooth. Printer: HP Laserjet 1020 plus.

**Spares:-**

1. Gas tight syringes:- 1µl, 10µl, 150µl & 250µl.
2. Graphite Ferrule for quoted capillary columns: 10 each
3. SS Nut –Qty 5
4. Wafer-Ceramic Cutter Qty 10
5. PTFE/Silicone Injector Septa Qty 50
6. Set of tools
7. Gas sampling/ collection valve
8. Gas standards: C<sub>2</sub>H<sub>2</sub>, C<sub>2</sub>H<sub>4</sub>, CH<sub>4</sub>, ..... : One each

**Optional Items:-**

**Auto Sampler :Qty-1**

1. 10 or more vial capacity

**NOTE: Cost of individual items be quoted.**

**Please provide compliance statement sheet with technical bid and if**

<p><b>there is any deviation in above mentioned specifications should be clearly highlighted in remarks.</b></p> <p><b>User list should be attached along with literature.</b></p> <p><b>Anything extra required for installation should be quoted along with instrument.</b></p>						
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**Signature of the Tenderer  
With Seal**