DEPARTMENT OF CHEMISTRY Tender No.: NITSIKKIM/CHEM/DST/2017/01 dated 27<sup>th</sup> March 2017

### Tender for Supply & Installation of Online Gas Chromatography System at Department of Chemistry, NIT Sikkim



TENDER SUMMARY					
Tender No.NITSIKKIM/CHEM/DST/2017/01 dated 27th March, 2017					
Bid System	Two Bid Open Tender				
Closing Date & Time for	8th May, 2017, 5:00 PM				
submission of bid					
Opening Date & Time of	12th May, 2017, 4:00 PM (Opening Date & Time of price bid will be				
technical bid (TENTATIVE)	informed later only to Technically qualified bidders.)				
Place of opening of bid	Department of Chemistry, National Institute of Technology Sikkim, Ravangla Campus, Barfung, South Sikkim, 737139				
Bid should be addressed to	Faculty In-charge, Stores & Purchase Activities National Institute of Technology Sikkim, Ravangla Campus Barfung Block, South Sikkim – 737 139				
Tender Fees	₹ 1000/- (Rupees One Thousand, in the form of a Demand Draft drawn in favour of "DIRECTOR, NIT Sikkim" payable at Ravangla, South Sikkim)				
Earnest Money Deposit (EMD)₹ 25,000/- (Rupees Twenty five Thousand) in the form of a Demand Draft drawn in favour of "DIRECTOR, NIT Sikkim" payable at Ravangla, South Sikkim)					

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National Institute of Technology Sikkim, Sikkim invites tender for supply, erection, installation, commissioning, testing, demonstration and training of Online Gas Chromatography System, as per specifications given in the Annexure attached to the Tender form. All offers should be made in English and should be written in both figures and words. Tender forms can be downloaded from the website (www.nitsikkim.ac.in) of the Institute. The bidders are requested to read the tender document carefully and ensure compliance with all specifications/instructions herein. Non-compliance with specifications/instructions in this document may disqualify the bidders from the tender exercise. The Director, NIT Sikkim, Sikkim reserves the right to select the item (in single or multiple units) or to reject any quotation wholly or partly without assigning any reason. Incomplete tenders, amendments and additions to tender after opening or late tenders are liable to be ignored and rejected.

#### **Terms & Conditions**

- 1. The technical and financial bids should be quoted separately and put in different sealed envelopes marked "Technical bid" or "Financial bid" as applicable. These separate bids envelopes are to be put in an outer envelope which should also be sealed.
- 2. The Vendors who have earlier supplied the equipment to any of the NITs, IITs, IISc, IISERs and other Scientific Institute of National Repute may tender. The details of such institutions and the cost with name of equipment may also be supplied with the bids.
- 3. The technical and financial bids should be submitted in original. The financial bid should include the cost of main equipment/item and its accessories. If there is any separate cost for installation etc. that should be quoted.
- 4. Each individual sealed envelope as well as the outer envelope should be marked with the following reference on the top left hand corner: "NITSIKKIM/CHEM/DST/2017/01/Item Name.\_\_\_\_dated 27th March, 2017".
- 5. The printed literature and catalogue/brochure giving full technical details should be included with the technical bid to verify the specifications quoted in the tender. The bidders should submit copies of suitable documents in support of their reputation, credentials and past performance.
- 6. The rates should be quoted in figures (typed or printed) and cutting should be avoided. The final amount should be in figures as well as in words. If there are cuttings, they should be duly initialed, failing which the bids are liable to be rejected.
- 7. Any bids received after **5:00 P.M. on 8th May, 2017** shall not be considered.
- 8. The Technical Bids will be opened on 12<sup>th</sup> May, 2017 at 04:00 P.M. The date & time for opening of Financial Bids will be informed later on to the technically qualified bidders.
- 9. While sending rates, the firm shall give an undertaking to the effect that "the terms/conditions mentioned in the enquiry letter/Tender Notice against which the rates are being given are acceptable to the firm." In case the firms do not give this undertaking, their rates will not be considered.
- 10. If the supplier/firm is original equipment manufacturer (OEM)/authorized dealer/sole distributor of any item, the certificate to this effect should be attached. Firm Registration certificate(s)/Trade license should also be attached.

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11. All tender documents should have to be sent through courier, speed post or registered post only. All tender documents received after the specified date and time shall not be considered. The postal address for submitting the tenders is:

> Faculty In-charge, Stores & Purchase Activities National Institute of Technology Sikkim, Ravangla Campus Barfung Block, South Sikkim – 737 139

- 12. In the event of any dispute or difference(s) between the vendee Institute (NIT Sikkim) and the vendor(s) arising out of non-supply of material or supplies not found according to specifications or any other cause whatsoever relating to the supply or purchase order before or after the supply has been executed, shall be referred to "The Director, NIT Sikkim", Sikkim who may decide the matter himself or may appoint arbitrator(s) under the arbitration and conciliation Act, 1996. The decision of the arbitrator shall be final and binding on both the parties.
- 13. The place of arbitration and the language to be used in arbitral proceedings shall be decided by the arbitrator.
- 14. All disputes shall be subject to Sikkim Jurisdiction only.
- 15. All tenders in which any of the prescribed conditions is not fulfilled or any condition is put forth by the tenderer shall be summarily rejected.
- 16. The bidders or their authorized representatives may also be present during the opening of the Technical Bid, if they desire so, at their own expenses.

**Note:** Price bids of only those bidders will be opened whose technical bids are found suitable by the committee appointed for the purpose. Date and time of opening of price bids will be decided after technical bids have been evaluated by the committee. Information in this regard will be posted on Institute's web site / Notice board.

- 17. Clarifications: In case the bidders requires any clarification regarding the tender documents, they are requested to contact Dr. Achintesh N. Biswas (e-mail: <u>achintesh@nitsikkim.ac.in</u>) on or before 15/04/2017.
- 18. **Tender Cost:** A Demand draft of ₹ 1,000/-(**Rupees One Thousand only**) towards non-refundable tender fee, drawn in favour of "The Director, NIT Sikkim" payable at Ravangla should accompany the Technical bid documents. In the absence of tender cost, the tender will not be accepted.
- 19. Earnest Money Deposit (EMD): A refundable amount of ₹ 25,000/- earnest money deposit (EMD) in the shape of DD from a scheduled bank in India (valid for a minimum period of 3 months from the date of submission of tender) should accompany the bid documents. The DD drawn in favour of "The Director, NIT Sikkim" payable at Ravangla should accompany the bid documents. The EMD should be kept in a separate sealed envelope, should be marked clearly and put in the outer envelope that contains the technical and financial bid envelopes. The bidders should enclose a pre-receipted bill for the EMD to enable us to return the EMD of unsuccessful bidders. Failure to deposit Earnest Money will lead to rejection of tender. The bidders should submit separate EMD. In the event of the awardee bidder backing out, EMD of that bidder will be forfeited.

#### 20. Pre – Qualification Criteria:

(a) Bidders should be the manufacturer / authorized dealer. Letter of Authorization from original equipment manufacturer (OEM) on the same and specific to the tender should be enclosed.

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- (b) The Vendors who have earlier supplied the equipment to any of the NITs, IITs, IISc, IISERs and other Scientific Institute of National Repute may tender. The details of such institutions and the cost with name of equipment may also be supplied with the bids.
- (c) An undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extend support for the warranty as well.
- (d) OEM should be internationally reputed Branded Company.
- (e) Non-compliance of tender terms, non-submission of required documents, lack of clarity of the specifications, contradiction between bidder specification and supporting documents etc. may lead to rejection of the bid.
- (f) Furnishing of wrong/ambiguous information in the compliance statement may lead to rejection of bid and further black listing of the bidder, if prima-facie it appears that the information in the compliance statement was given with a malafide/fraudulent intent.

#### 21. Prices:

- (a) The Prices quoted should be inclusive of all taxes or duties, packing, forwarding, freight, insurance, delivery and commissioning etc. at destination site (NIT Sikkim, Ravangla, South Sikkim 737139). NIT Sikkim is registered with DSIR, Govt. of India and is exempted from Custom / Excise Duty. Exemption Certificate to this effect will be issued by NIT Sikkim. Hence, Customs/Excise Duty exempted price should be quoted. The rates shall be firm and final. Nothing extra shall be paid on any account. In the price bid/financial bid, the vendor should clearly mention the final price breakup i.e. ex-work price/FCA price, FOB price, CIP/CIF price & FOR NIT Sikkim, Sikkim Campus price, as applicable in their bid.
- (b) In case of imported equipment(s)/item(s), the agency commission, if any, payable in Indian rupees should be mentioned separately. For imported equipment, the Letter of Credit will be opened for the amount excluding agency commission in Indian Rupees. The firm should clearly mention the address of foreign bank in the financial bid.
- 22. **Validity**: The bid should be valid for acceptance up to a period of 180 Days. The Bidders should be ready to extend the validity, if required without any additional financial implications.
- 23. **Delivery**: The Equipment should be delivered and installed within the period as specified in the purchase order and be ready for use within 24 weeks of the issue of purchase order unless otherwise prescribed. If the bidder fails to deliver and place any or all the Equipments or perform the service by the specified date, penalty at the rate of 1% per week of the total order value subject to the maximum of 10% of total order value will be deducted.
- 24. **Training**: Bidders need to provide adequate training to the nominated persons of NIT Sikkim at their cost. NIT Sikkim will not bear any training expenditure.
- 25. Warranty Declaration: Bidders must give the comprehensive on-site warranty as required from the date of successful installation of Equipment against any manufacturing defects and also give the warranty declaration that "everything to be supplied by us hereunder shall be free from all defects and faults in material, workmanship and shall be of the highest quality and material of the type ordered, shall be in full conformity with the specification and shall be complete enough to carry out the experiments, as specified in the tender document". Any deviation in the material, and the specifications from the accepted terms may liable to be rejected and the bidders need to supply all the goods in the specified form to the satisfaction / specifications specified in the order / contract and demonstrate at their own cost.

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- 26. **Performance Bank Guarantee:** A performance bank guarantee from a scheduled bank in India for an amount equal to 10% of the price for duration of two months beyond the expiry of warranty period will be taken from the supplier or Indian agent.
- 27. **Terms of Payment**: Payment will generally be made only after delivery and satisfactory installation, testing, commissioning etc. This must be specified in the tender/quotation.
- In case of imported supplies, payment (excluding Indian agency commission, if any) will be made through irrecoverable Letter of Credit in two installments. 80% of the money will be released on submission of shipping of documents. Remaining 20% will be released after successful installation of the instrument and submission of a performance bank guarantee for 10% of the order value from a nationalized bank, valid for 2 months beyond the expiry of the warranty.
- 28. **Tender expenses and documents:** All costs incurred by the bidder in the preparation of the tender shall be at the entire expense of the bidder.
- 29. **Tender Evaluation Criteria:** The technical bids will be opened and evaluated by a duly constituted committee. After evaluation of the technical bid, the financial bid for only those offers which have qualified in the evaluation of technical bid will be opened.
- 30. The NIT Sikkim reserves the right to cancel the tender at any stage (point of time) without assigning any reason.
- 31. Return of EMD:
  - The earnest money of unsuccessful bidders will be returned to them without any interest within 30 working days after awarding the contract.
  - The earnest money of the successful bidder will be returned to them without any interest within 30 Days after supply of material.
- 32. **Manual and documentation:** All the manuals necessary for operating and servicing the equipment (including details of electronic circuits) will have to be provided along with the instrument.
- 33. Bidders should go through the tender terms, conditions and specifications carefully and fill in the attached compliance statement accurately and unambiguously. They should ensure that all the required documents are furnished along with the bid.

\*\*Please note that NIT Sikkim is located in a remote place in the north eastern state of Sikkim where the speed posts take at least 10 days to reach. So, all bidders are requested to send in their bids well in advance of last date.

Sd/-

Faculty In-charge, Stores & Purchase Activities NIT Sikkim, Ravangla, South Sikkim 737139

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#### **BID PARTICULARS**

1	Name of the Supplier :	
2	Address of the Supplier :	
3	Availability of demonstration of equipment :	Yes/ No
4	Tender cost enclosed :	Yes/ No if yes
DD	No Bank	Amount
5	EMD Enclosed	Yes/ No if yes
DD	NoBank	Amount
6	Name and address of the Officer/contact perso tender enquiry.	n to whom all references shall be made regarding this
	Name :	
	Address:	
	Tel. No.:	
	Fax No.:	
	Mobile:	
	Email:	

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#### Annexure-1

### Ref:-ENQUIRYNO:- NITSIKKIM/CHEM/DST/2017/01/Online Gas Chromatography System

### **Online Gas Chromatography System Specifications**

Quotations are invited for purchase of Online Gas Chromatography System.

Offered measurement system should take into account specifications given below:-

S.N.	Detailed Specification of Online Gas Chromatography System						
1	Gas Chromatograph1) Usable volume : 14L or More2) Automatic cooling under processor control						
	Oven	2) Automatic cooling under processor control					
		3) Temperature operating range : 4°C above ambient to 450°C or more					
		4) Temperature set-point resolution: 0.1°C					
		5) Ramp Rate: $0^{\circ}$ to $50^{\circ}$ C/min in $1^{\circ}$ C/min increments through					
		computer program & display on monitor. Maximum Eight Ramps.					
		6) $0.1^{\circ}$ C Temperature Accuracy : $\pm 0.1^{\circ}$ C					
		7) Overheat Protection: Maximum temperature protection adjustable					
		from Built-in Alarm and Auto shut off of heating control.					
2	Inlet	- Maximum no. of installation: three					
		(1) Packed inlet					
		a) Maximum Temperature : 200°C					
		b) Pressure setting range : 0.01 - 150 psi or better					
		c) Total flow setting range : 0.1-100 ml/min or better					
		d) Flow stability $< \pm 0.05$ ml/min					
		e) Pressure stability $< \pm 0.05$ psi					
		f) Temperature set point : $0.1^{\circ}$ C or better					
		g) Temperature stability $< \pm 0.1$ °C					
		(2) Capillary inlet (Split/Splitless switchable)					
		a) Maximum Temperature : 400°C					
		b) Pressure setting range : 0.01 ~ 150 psi					
		c) Splitless time set point : 0.01min					
		d) Total Flow stability $< \pm 0.05$ ml/min					
		e) Pressure stability $< \pm 0.05$ psi					
		f) Temperature set point : 0.1°C					
		g) Temperature stability $< \pm 0.1$ °C					
		h) Maximum spilt ratio: 7,500					
		i) Septum purge: Fixed					

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3	Detector	ITTSIKKIM/CHEM/DST/2017/01 dated 27 <sup>th</sup> March 2017         (i) Flame Ionisation Detector – 1 Set .					
		Compatible with 1/4", 1/8", 1/16" and capillary columns					
		a) With Built-in Signal Amplifier Unit and Integrator output.					
		b) Signal Range : High and Low					
		c) Sensitivity: Better than 0.1ppm for Hexane					
		d) Operating Temperature : $5^{\circ}$ C above ambient to $450^{\circ}$ C, $\pm 0.2^{\circ}$ C					
		through computer programming					
		(ii) Thermal Conductivity Detector TCD - 1 Set					
		Compatible with 1/4", 1/8", 1/16" and capillary columns					
		a) With Built-in Signal Amplifier Unit and Integrator output.					
		b) Filament : Dual Path 4 Tungsten-Rhenium Filaments					
		c) Range : High and Low					
		a) Operating Temperature: 5°C above ambient to $450^{\circ}$ C, $\pm 0.2^{\circ}$ C					
		through computer programme.					
		d) Sensitivity : Better than 1 PPM Oxygen					
		(Usable for both Packed Column and Capillary Column. Any one					
		injection at a time)					
4	Pneumatic Controls	Column carrier gas regulation is precise and can be set within $\pm 0.1$ PSI.					
	( <b>PC</b> )	Digital Display of the pressure set to the column.					
		Digital Flow display in case of packed column with the control from					
		Imported Differential Flow Controllers (1 or 2)					
		Digital Column back pressure display improves high precision in					
		capillary column use.					
		Make-up Gas Precision Regulation and Digital Pressure Display and					
		Control.					
		Pressure Range : 0 – 60 PSI					
		Pressure Accuracy : $\pm 0.1$ PSI					
		Pressure Accuracy : $\pm 0.1$ PSI					
		Pressure Accuracy : ± 0.1 PSI Pressure Readability : ± 0.1 PSI					
5	Display						
5	Display	Pressure Readability : $\pm 0.1$ PSI					

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	installation GC	column, Gas Calibration Standard – 500 ml, syringe, tubing, fitting for				
		starting the equipment.				
7	Software	The necessary software for data acquisition, control, chromatographic data				
		analyses and evaluation, reporting etc. should be quoted. The software				
		should be easy to handle and user friendly				
8	Warranty	<b>3 years</b> , Mode of support after warranty period also needs to be specified.				
	The folle	owing components are to be quoted separately in INR.				
9	PC & Laser Printer	Indigenous (Provide full technical specification)				
10	UPS	5KVA online UPS;				
		1) 30 minutes full load battery support (power factor 0.8).				
		2) Should work with input 200 to 240v ac 50Hz supply.				
		3) Should have truly sinusoidal waveform output.				
		4) Should have zero delay changeovers.				
		5) Should be with output voltage and current monitoring.				
		6) Should have lead acid sealed battery based support				
		7) Power outlet terminated in sockets with isolator protection.				
		8) Input DC in for the invertor :120Vdc or more				
		9) Battery should be from DGS&D approved brands				

Note: Gas Cylinders for Hydrogen, Nitrogen and Zero air with regulators & Gas Purification Cabinets to be arranged by Purchaser.

#### **General Terms and conditions:**

(i) Vendors are supposed to quote suitable software/hardware for data analysis and recording.

#### (ii) Warranty and maintenance

- a. The complete instrument should be under warranty at least for a period of three year from the date of installation. Additional cost, if any for extended warranty of three years may be quoted.
- b. In case of breakdown during the warranty period, a competent service engineer of the supplier should make as many visits as are necessary to rectify the problem and replace the faulty parts, without any liability of cost. But it should be repaired within 72 working hours from the date and time of complaint lodged by the user. In case of any delay in repair without adequate justification, there will be penalty of rupees 5,000/- per day for the down time. Supplier should ensure to provide all spares required for making the instrument operational.

#### (iii) Annual maintenance contract

Quote the cost of onsite annual maintenance for two years after warranty period (optional).

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#### (iv) Installation and training

Installation should be done by the manufacturer. On-site two week training for operation and application may be given to the users free of cost. NIT Sikkim will not bear any training or leaving expenditure in this regard.

#### (v) Spare parts

The supplier of the instrument must confirm in writing that the spares for the entire instrument will be available for a period of at least ten years after the model of equipment supplied has been phased out. For frequently required spares, there should be adequate inventory with the Indian agency.

#### (vi) Manual

One set of operating manual and service manual including detailed drawings and circuit diagrams (in English) should be provided with the instrument.

#### (vii) User list with contacts

Vendor should provide us a list of installations in India with all contact details and model details so that NIT Sikkim can approach the contact person for any feedback.

#### (viii) Compliance Statement

The supplier must submit technical brochures and proper application notes adequately explaining and confirming the availability of the features in the model of the equipment being quoted.

The supplier must submit a table indicating the compliance of the features of the model of the equipment being quoted with those given in the indent. Features not matching – must be clearly indicated.

Additional features and Features in the quoted equipment which are better than those in the indent – may be clearly explained.

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### **COMPLIANCE STATEMENT FOR THE TENDER SPECIFICATIONS**

### Ref:-ENQUIRYNO:- NITSIKKIM/CHEM/DST/2017/01/Online Gas Chromatography System

S.N		Please mention your			
		remarks in Yes or No			
	<b>Required Indent Specifications</b>	format or mention the			
		value			
1	Is Tender fees attached?				
2	Is EMD attached? (if applicable)				
3	Is the bidder original equipment manufacturer (OEM)/authorized dealer?				
4	If authorized dealer, recent dated certificate to this effect from OEM, attached				
	or not?				
5	Undertaking from OEM regarding technical support & extended warranty				
	present				
6	Validity of 180 days or not?				
7	Undertaking from bidder regarding acceptance of tender terms & conditions				
8	List of reputed users for the past three years specific to the instrument specific				
	to the instrument				
9	Whether special educational discount for NIT Sikkim given				
10	Whether training of operator and research students without any charge offered				
	Technical Specifications				
	<b>Online Gas Chromatography System</b>				

1	Gas	1) Usable volume : 14L or More
	Chromatograph	2) Automatic cooling under processor control
	Oven	3) Temperature operating range : 4°C above ambient
		to 450°C or more
		4) Temperature set-point resolution: 0.1°C
		5) Ramp Rate: 0° to 50°C/min in 1°C/min increments
		through computer program & display on monitor.
		Maximum Eight Ramps.
		6) $0.1^{\circ}$ C Temperature Accuracy : $\pm 0.1^{\circ}$ C

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		7) Overheat Protection: Maximum temperature
		protection adjustable from Built-in Alarm and
		Auto shut off of heating control.
2	Inlet	- Maximum no. of installation: three
		(1) Packed inlet
		a) Maximum Temperature : 200°C
		b) Pressure setting range : 0.01 - 150 psi or better
		c) Total flow setting range : 0.1-100 ml/min or better
		d) Flow stability $< \pm 0.05$ ml/min
		e) Pressure stability $< \pm 0.05$ psi
		f) Temperature set point : 0.1°C or better
		g) Temperature stability $< \pm 0.1$ °C
		(2) Capillary inlet (Split/Splitless switchable)
		a) Maximum Temperature : 400°C
		b) Pressure setting range : $0.01 \sim 150$ psi
		c) Splitless time set point : 0.01min
		d) Total Flow stability $< \pm 0.05$ ml/min
		e) Pressure stability $< \pm 0.05$ psi
		f) Temperature set point : 0.1°C
		g) Temperature stability $< \pm 0.1$ °C
		h) Maximum spilt ratio: 7,500
		i) Septum purge: Fixed
3	Detector	(i) Flame Ionisation Detector (FID) (1-set)
3	Detector	(i) Flame Ionisation Detector (FID) (1-set) (a) With Built-in Signal Amplifier Unit and Integrator
3	Detector	<ul> <li>(i) Flame Ionisation Detector (FID) (1-set)</li> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> </ul>
3	Detector	<ul> <li>(i) Flame Ionisation Detector (FID) (1-set)         <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Signal Range : High and Low</li> </ul> </li> </ul>
3	Detector	<ul> <li>(i) Flame Ionisation Detector (FID) (1-set)</li> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Signal Range : High and Low</li> <li>(c) Sensitivity: Better than 0.1ppm for Hexane</li> </ul>
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3	Detector	<ul> <li>(i) Flame Ionisation Detector (FID) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Signal Range : High and Low</li> <li>(c) Sensitivity: Better than 0.1ppm for Hexane</li> <li>(d) Operating Temperature : 5°C above ambient to 450°C, ±0.2°C through computer programming</li> </ul> </li> <li>(ii) Thermal Conductivity Detector (TCD) (1-set)</li> </ul>
3	Detector	<ul> <li>(i) Flame Ionisation Detector (FID) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Signal Range : High and Low</li> <li>(c) Sensitivity: Better than 0.1ppm for Hexane</li> <li>(d) Operating Temperature : 5°C above ambient to 450°C, ±0.2°C through computer programming</li> </ul> </li> <li>(ii) Thermal Conductivity Detector (TCD) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator</li> </ul> </li> </ul>
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3	Detector	<ul> <li>(i) Flame Ionisation Detector (FID) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Signal Range : High and Low</li> <li>(c) Sensitivity: Better than 0.1ppm for Hexane</li> <li>(d) Operating Temperature : 5°C above ambient to 450°C, ±0.2°C through computer programming</li> </ul> </li> <li>(ii) Thermal Conductivity Detector (TCD) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Filament : Dual Path 4 Tungsten-Rhenium Filaments</li> <li>(c) Range: High and Low Operating Temperature: 5°C above ambient to 450°C, ±0.2°C through</li> </ul> </li> </ul>
3	Detector	<ul> <li>(i) Flame Ionisation Detector (FID) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Signal Range : High and Low</li> <li>(c) Sensitivity: Better than 0.1ppm for Hexane</li> <li>(d) Operating Temperature : 5°C above ambient to 450°C, ±0.2°C through computer programming</li> </ul> </li> <li>(ii) Thermal Conductivity Detector (TCD) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Filament : Dual Path 4 Tungsten-Rhenium Filaments</li> <li>(c) Range: High and Low Operating Temperature: 5°C above ambient to 450°C, ±0.2°C through computer programme.</li> </ul> </li> </ul>
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3	Detector	<ul> <li>(i) Flame Ionisation Detector (FID) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Signal Range : High and Low</li> <li>(c) Sensitivity: Better than 0.1ppm for Hexane</li> <li>(d) Operating Temperature : 5°C above ambient to 450°C, ±0.2°C through computer programming</li> </ul> </li> <li>(ii) Thermal Conductivity Detector (TCD) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Filament : Dual Path 4 Tungsten-Rhenium Filaments</li> <li>(c) Range: High and Low Operating Temperature: 5°C above ambient to 450°C, ±0.2°C through computer programme.</li> <li>(d) Sensitivity : Better than 1 PPM Oxygen</li> <li>(Usable for both Packed Column and Capillary Column. Any</li> </ul> </li> </ul>
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3	Pneumatic	<ul> <li>(i) Flame Ionisation Detector (FID) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Signal Range : High and Low</li> <li>(c) Sensitivity: Better than 0.1ppm for Hexane</li> <li>(d) Operating Temperature : 5°C above ambient to 450°C, ±0.2°C through computer programming</li> </ul> </li> <li>(ii) Thermal Conductivity Detector (TCD) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Filament : Dual Path 4 Tungsten-Rhenium Filaments</li> <li>(c) Range: High and Low Operating Temperature: 5°C above ambient to 450°C, ±0.2°C through computer programme.</li> <li>(d) Sensitivity : Better than 1 PPM Oxygen</li> <li>(Usable for both Packed Column and Capillary Column. Any one injection at a time)</li> </ul> </li> </ul>
		<ul> <li>(i) Flame Ionisation Detector (FID) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Signal Range : High and Low</li> <li>(c) Sensitivity: Better than 0.1ppm for Hexane</li> <li>(d) Operating Temperature : 5°C above ambient to 450°C, ±0.2°C through computer programming</li> </ul> </li> <li>(ii) Thermal Conductivity Detector (TCD) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Filament : Dual Path 4 Tungsten-Rhenium Filaments</li> <li>(c) Range: High and Low Operating Temperature: 5°C above ambient to 450°C, ±0.2°C through computer programme.</li> <li>(d) Sensitivity : Better than 1 PPM Oxygen</li> <li>(Usable for both Packed Column and Capillary Column. Any one injection at a time)</li> </ul> </li> <li>Column carrier gas regulation is precise and can be set within ±0.1 PSI.</li> </ul>
	Pneumatic	<ul> <li>(i) Flame Ionisation Detector (FID) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Signal Range : High and Low</li> <li>(c) Sensitivity: Better than 0.1ppm for Hexane</li> <li>(d) Operating Temperature : 5°C above ambient to 450°C, ±0.2°C through computer programming</li> </ul> </li> <li>(ii) Thermal Conductivity Detector (TCD) (1-set) <ul> <li>(a) With Built-in Signal Amplifier Unit and Integrator output.</li> <li>(b) Filament : Dual Path 4 Tungsten-Rhenium Filaments</li> <li>(c) Range: High and Low Operating Temperature: 5°C above ambient to 450°C, ±0.2°C through computer programme.</li> <li>(d) Sensitivity : Better than 1 PPM Oxygen</li> <li>(Usable for both Packed Column and Capillary Column. Any one injection at a time)</li> </ul> </li> </ul>

### DEPARTMENT OF CHEMISTRY

Tender No.: NITSIKKIM/CHEM/DST/2017/01 dated 27th March 2017

		No.: NITSIKKIW/CHEWI/DST/2017/01 dated 27 March 2017
		control from Imported Differential Flow Controllers (1 or
		Digital Column back pressure display improves high
		precision in capillary column use.
		Make-up Gas Precision Regulation and Digital Pressure
		Display and Control.
5	Display	LCD Graphical display with feather touch screen control
		for all parameters for – injector, detector and oven etc.
6	Start-up Kit for	Start-up Kit with Gas Purifier Unit for 3 gases
	installation GC	Packed column
		Capillary column
		Gas Calibration Standard – 500 ml,
		Syringe, tubing, fitting for starting the equipment.
7	Software	The necessary software for data acquisition, control,
		chromatographic data analyses and evaluation, reporting
		etc. should be quoted. The software should be easy to
		handle and user friendly
8	Warranty	<b>3 years</b> , Mode of support after warranty period also needs
		to be specified.
9	PC & Laser	Indigenous (Provide full technical specification)
	Printer	
10	UPS	5KVA online UPS;
		1) 30 minutes full load battery support (power factor
		0.8).
		2) Should work with input 200 to 240v ac 50Hz
		supply.
		<ul><li>3) Should have truly sinusoidal waveform output.</li></ul>
		4) Should have zero delay changeovers.
		5) Should be with output voltage and current
		monitoring.
		6) Should have lead acid sealed battery based support
		7) Power outlet terminated in sockets with isolator
		protection.
		8) Input DC in for the invertor :120Vdc or more
		Battery should be from DGS&D approved brands
L	1	

DEPARTMENT OF CHEMISTRY

Tender No.: NITSIKKIM/CHEM/DST/2017/01 dated 27th March 2017

#### MODEL PRICE BID FORMAT FOR INDIAN BIDDERS

#### Tender No. & Date.:

#### Bidder's offer No. & Date:

S No	Description of items	Unit (Set/ No)	Qty	Rate/Qty on Rs. (excluding all taxes)	ED in %	VAT/ CST/ in %	E-cess* in %	Service Tax in %	Total Value in Rs. (inclusive of all taxes)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	<b>Supply portion</b> (The price indicated shall be exclusive of all accessories, spares etc. as given in the scope of supply)								
2	Other accessories /spares <i>etc</i> as given in scope of supply (Individual item-wise break-up price shall be attached as an annexure to this price bid format.)								
3	Installation & Commissioning (extra, if any)								
4	Packing & Forwarding charges (extra, if any)								
5	FOR Dispatching station value in Rs.								
6	Freight & Transit insurance charges, extra, if any								
7	Total all-inclusive price delivered, installed and commissioned at NIT Sikkim								
8	Net cost to be paid by NIT Sikkim								

\* The charges to E-cess @1% of the cost of the equipment (exclusive of VAT / CST) to be paid to Sikkim Govt. / Road permit must be borne by the suppliers. This is the cost of special permit for nationally important educational institution like NIT Sikkim. The NIT Sikkim may help in arranging waybill against invoice. However, the charges @1% + cost of procurement (Form cost etc.) shall be deducted from the total bill amount.