

**Government of India**  
Ministry of Finance,  
Department of Revenue  
Central Board of Excise and Customs  
Directorate of Logistics  
4<sup>th</sup> Floor, 'A' Wing, Lok Nayak Bhawan,  
Khan Market,  
New Delhi 110 511  
Phone: 24693529 Fax: 24697497

**GLOBAL E-TENDER ENQUIRY DOCUMENT FOR  
SUPPLY, INSTALLATION AND COMMISSIONING OF EQUIPMENT/  
INSTRUMENTS FOR LABORATORIES OF CUSTOMS & CENTRAL  
EXCISE AND ROYAL GOVERNMENT OF BHUTAN**

GNIT e-Tender No. 01(AS)/2017 dated 31.03.2017

Period during which the tender enquiry documents will be available on official websites <a href="http://www.cbec.gov.in">www.cbec.gov.in</a> , <a href="http://www.dolcbec.gov.in">www.dolcbec.gov.in</a> & <a href="http://www.eprocure.gov.in">www.eprocure.gov.in</a>	From 31.03.2017 to 15.05.2017
Potential bidders can seek clarifications on tender document up to	17.04.2017 at 1500 Hrs.
Pre-bid Conference will be held on	24.04.2017 at 1500 Hrs.
Last date of submission of EMD & Tender fee	12.05.2017 at 1500 Hrs.
Closing date & time for online submission of Tenders	15.05.2017 at 1300 Hrs.
Time and date of opening of tenders	16.05.2017 at 1500 Hrs.
Place of receipt of EMD and Tender fee	Directorate of Logistics Customs and Central Excise 4 <sup>th</sup> Floor, 'A' Wing, Lok Nayak Bhawan, Khan Market, New Delhi -110511
Place of opening of tenders	Online at <a href="http://www.eprocure.gov.in">www.eprocure.gov.in</a> Directorate of Logistics 4 <sup>th</sup> Floor, 'A' Wing, Lok Nayak Bhawan, Khan Market, New Delhi-110511

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## Section-I

### GLOBAL NOTICE INVITING TENDER THROUGH E-PROCUREMENT

Tender No. 01(AS)/2017

Dated: 31.03.2017

- 1.1 For and on behalf of the President of India, Commissioner, Directorate of Logistics, Customs & Central Excise, Dept. of Revenue, Ministry of Finance, Govt. of India, having its office at 4<sup>th</sup> Floor, 'A' Wing, Lok Nayak Bhawan, Khan Market, New Delhi - 110 511 invites e-tenders valid up to 180 days from the date of opening of tender, in two parts, namely, (1) Technical Bid and (2) Price Bid from tenderers who meet the qualification criteria laid down in Section VII for supply, installation and commissioning of 58 Units of Laboratory Equipment/ Instruments for use in analytical works of various Laboratories of Customs & Central Excise, Government of India & Royal Government of Bhutan. The tender enquiry documents will be available on official website ([www.cbec.gov.in](http://www.cbec.gov.in) and [www.dolcbec.gov.in](http://www.dolcbec.gov.in)) and on [www.eprocure.gov.in](http://www.eprocure.gov.in) from 31.03.2017 to 15.05.2017. The tenders can be submitted online up to 1300 hrs on 15.05.2017. The tenders will be opened online at 1500 hrs. on 16.05.2017 at Directorate of Logistics, 4<sup>th</sup> Floor, 'A' Wing, Lok Nayak Bhawan, Khan Market, New Delhi 110 511.
- 1.2 Details of the goods and services required, specifications, eligibility and qualifications to bid and instructions on how to bid and other details are available in the Tender Document which can be downloaded from [www.eprocure.gov.in](http://www.eprocure.gov.in), [www.dolcbec.gov.in](http://www.dolcbec.gov.in) or [www.cbec.gov.in](http://www.cbec.gov.in) from 31.03.2017 to 15.05.2017. Last date of receiving clarification on tender is 17.04.2017 upto 1500 Hrs. The pre-bid conference will be held on 24.04.2017 at 1500 Hrs at Directorate at the address mentioned in paragraph 1.4 below.
- 1.3 Interested tenderers may download the tender enquiry documents (TED) and submit their tenders online at Central Public Procurement Portal website: <https://eprocure.gov.in/eprocure/app>.
- 1.4 Earnest Money Deposit (EMD), as specified in **Table-I** below, in the form of Bank Guarantee and a non-refundable Tender fee of Rs. 5,000/- (Rupees five thousand only) in the form of account payee demand draft / bankers cheque, drawn on a scheduled commercial bank in India, in favour of "Pay and Accounts Officer, O/o the Principal Chief Controller of Accounts, Central Board of Excise & Customs" payable at New Delhi, must reach at the address given below by 12.05.2017 at 1500 hrs. Tenderers, however, have to attach scanned copies of EMD & Tender fee along with the Technical bid of their e-tender.

Deputy Commissioner  
Directorate of Logistics,  
Customs and Central Excises  
4<sup>th</sup> Floor, 'A' Wing, Lok Nayak Bhawan,  
Khan Market, New Delhi 110 511
- 1.5 In the event of any of the above mentioned dates being subsequently declared as a holiday / closed day for the Purchaser organisation, the tenders will be opened on the next working day at the appointed time.
- 1.6 Tenderer should quote for full quantity of one type or more than one type of the tendered Equipment/ Instruments and the bids will be evaluated accordingly.
- 1.7 The following tenders will be treated as non-responsive and rejected, at the initial stage itself.
  - a) Tenders received without EMD
  - b) Tenders received without Tender fee.

- 1.8 The undersigned reserves the right to withdraw, modify and/or cancel the tender without assigning any reasons whatsoever.

Sd/-  
Commissioner  
For and on behalf of the President of India  
Phone: 011-24693529 Fax: 011-24697497

**TABLE - I**

<b>Sl. No.</b>	<b>Type of Equipment/ Instrument</b>	<b>Number of units required</b>	<b>Earnest Money Deposit (Rs.)</b>
1.	UV-Vis Spectrophotometer	9	2,25,000
2.	FTIR Spectrophotometer	9	4,50,000
3.	Gas Chromatograph	10	5,40,000
4.	HP Liquid Chromatograph	10	6,43,000
5.	GC-MS	7	9,38,000
6.	LCMS	6	10,00,000
7.	XRD	1	1,75,000
8.	HPTLC-MS	1	2,00,000
9.	IR-MS	1	3,50,000
10.	ICP-MS	1	1,75,000
11.	LC-MS/MS	1	3,75,000
12.	NMR	1	2,56,000
13.	Mobile Testing Van	1	3,75,000
	<b>Total</b>	<b>58</b>	<b>57,02,000</b>

**SECTION - II**  
**GENERAL INSTRUCTIONS TO TENDERERS (GIT)**

**2.1 Introduction**

2.1.1 Commissioner, Directorate of Logistics, Customs and Central Excise for and on behalf of the President of India invites e-tenders from eligible and qualified Tenderers for supply, installation, commissioning of 58 Units of Laboratory Equipment/ Instruments to carry out day-to-day analytical works in the Laboratories of Customs & Central Excise, Government of India & Royal Government of Bhutan and provide warranty and post-warranty maintenance and other related services as detailed in Chapter IV “Schedule of Requirements” and which meet the requirements, specifications, technical details, quality assurance, etc. as indicated in Chapter IV, V and VI.

2.1.2 This section gives instructions to tenderers regarding preparation and submission of tenders and explains the mode and procedure to be adopted for receipt and opening, scrutiny and evaluation of tenders and subsequent placement of contract.

2.1.3 Failure to provide the required information and/or failure to comply with the instructions in these tender documents or give false/incorrect information may result in rejection of its tender.

**2.2 Definitions**

2.2.1 The following terms used in these documents shall have the meaning as indicated below:

2.2.2 Definitions:

- i. “Bidder” means tenderer who has submitted valid bid in this tender.
- ii. “Contract” means the written agreement entered into between the Purchaser and the Supplier together with all the documents mentioned therein and including all attachments, annexures, etc.
- iii. “Consignee” means the person to whom the goods are required to be delivered as specified in the Contract. If the goods are required to be delivered to a person as an interim consignee for the purpose of dispatch to another person as provided in the Contract then that “another” person is the consignee, also known as ultimate consignee.
- iv. “Contract price” means the price provided in clause 2.12.1 of Section II of the tender document.
- v. “Day” means calendar day.
- vi. “Delivery” means supply of systems or stores in finished and completely ready-for-use condition. The delivery shall be deemed to take place on delivery of the systems or stores at the places of installation in accordance with the terms of the Contract after taking over the systems and issuance of delivery & acceptance certificate to the Supplier of the same at the sites and approval of the same by the jurisdictional Commissioners of the Department or the Inspecting Authority.
- vii. “Goods” means the goods indicated in the Schedule of Requirements (Chapter IV).
- viii. “Earnest Money Deposit” (EMD) means monetary guarantee to be furnished by a Tenderer.
- ix. “Inspection” means activities such as measuring, examining, testing, gauging one or more characteristics of the product or service and comparing the same with the specified requirement to determine conformity.
- x. "Inspecting Authority" means the authorised representative of the Department to act as Inspecting Authority for the purpose of this contract and for the purpose of ascertaining the progress of the deliveries under the contract.
- xi. “L1” means the Tenderer whose tender is the lowest;
- xii. "Material" means anything used in the manufacture or assembly of Equipment/ Instruments or its parts.

- xiii. “Maintenance Contractor” means the contractor entrusted with the responsibility of maintaining the goods in warranty and post warranty period.
- xiv. “Original Equipment Manufacturer” means the firm which manufactures, assembles/ integrates and supplies the offered Equipment/ Instruments.
- xv. “Performance Security / Security Deposit” means monetary guarantee to be furnished by the Supplier for due performance of the terms of contract.
- xvi. “Purchaser” means the President of India acting through authorised officers and Commissioner, Directorate of Logistics, Customs & Central Excise, Ministry of Finance, Department of Revenue, 4<sup>th</sup> Floor, ‘A’ wing, Lok Nayak Bhawan, Khan Market, New Delhi 110 511 and includes his successors in office, nominees, authorized representatives.
- xvii. “Services” means services allied and incidental to the supply of goods, such as transportation, installation, commissioning, provision of technical assistance, training, after sales service, maintenance service, product support and other such obligations of the Supplier covered under the contract.
- xxviii. “Specification” means the document / standard that prescribes the requirement with which the goods or service have to conform and include;
  - a. Specifications / Requirements
  - b. Drawings / Data and other relevant information for the turn key execution of contract
  - c. Proprietary mark or brand means the mark or brand of a product, which is registered by an industrial Bidder.
  - d. Any other details governing the construction, manufacture or supply of goods as may be prescribed in the Contract.
- xix. “Supplier” means the individual, company or the firm supplying the goods and services, to which the award has been issued under this tender.
- xx. “E-Tender/Tender” means quotation/bid submitted online.
- xxi. “Tenderer” means individual, company, firm offering the tender.
- xxii. “Technical specification” includes-
  - a. Specifications, Drawings, Documents and certificates as referred in Section V
  - b. Any other details governing the construction, manufacture or supply of stores as may be prescribed in the contract.
- xxiii. "Test / Trial" means such tests as are prescribed in specifications to be made by the Purchaser or his nominee.
- xxiv. “User Laboratory /Commissionerate” means those Offices under whose jurisdiction the Equipment & Instruments are to be installed and accepted as detailed in Para 4.4 of Section IV.

### 2.3 Abbreviations:

“AERB”	Atomic Energy Regulatory Board of India
“AMC”	Annual Maintenance Contract
“BG”	Bank Guarantee
“CBEC”	Central Board of Excise & Customs
“CCAMC”	Centralised Comprehensive Annual Maintenance Contract
“CD”	Custom Duty
“CPPP”	Central Public Procurement Portal
“DD”	Demand draft
“DGS&D”	Directorate General of Supplies and Disposals
“DP”	Delivery Period
“ED”	Excise Duty

“EMD”	Earnest Money Deposit
“FOB”	Free on Board
“GCC”	General Conditions of Contract
“GIT”	General Instructions to Tenderers
“GNIT”	Global Notice Inviting Tender
“GOI”	Government of India
“ISO”	International Standard Organization
“LD”	Liquidated Damages
“NDPS”	Narcotic Drugs & Psychotropic Substance
“NIST”	National Institute of Standards & Technology
“NIT”	Notice Inviting Tender
“OEM”	Original Equipment Manufacturer
“QA”	Quality Assurance
“QAP”	Quality Assurance Plan
“QC”	Quality Control
“SAT”	Site Acceptance Test
“TED”	Tender Enquiry Document

## **2.4 Language of tender**

2.4.1 The tender and all subsequent correspondence shall be in English. If any literature submitted by the tenderer is any other language, an authenticated English translation thereof should also be submitted and in such a case, the English translation shall be considered for interpretation of the tender.

## **2.5 Eligible tenderers**

2.5.1 Only tenderers who fulfil the qualification criteria specified in Section VII are eligible to apply.

## **2.6 Tendering Expense**

2.6.1 The tenderer shall bear all costs and expenditure incurred and/or to be incurred by it in connection with its tender including preparation, mailing and submission of its tender and for subsequent processing the same. The Purchaser will, in no case be responsible or liable for any such cost, expenditure etc. regardless of the conduct or outcome of the tendering process.

## **2.7 Tender Enquiry Documents**

2.7.1 In addition to Section I – “Global Notice inviting Tender” (GNIT), the tender enquiry documents include:

Section II	- General Instructions to Tenderers (GIT)
Section III	- General Conditions of Contract (GCC)
Section IV	- Schedule of Requirements
Section V	- Technical Specifications
Section VI	- Quality Control Requirements
Section VII	- Qualification Criteria
Section VIII	- Price schedule
Section IX	- Form 1 - Tender Form
	Form 2 - Manufacturer’s Authorization Form
	Form 3 - Bank Guarantee (BG) Form for EMD
	Form 4 - BG Form for Performance Security / Balance 10% Payment
	Form 5 - Contract Form
	Form 6- Bank guarantee pro forma for advance payment of CAMC charges
	Form 7 - Model Certificate of Installation
	Form 8 - Model Certificate of Delivery & Acceptance
	Form 9 - Claim payment by the supplier
	Form 10- Information in respect of previous supplies by bidder
	Form 11- Pre-contract Integrity Pact
Appendix 1	- Instruction for submission of tender online



Annexure I - Specifications of Equipment/ Instruments for Central Revenues Control Laboratory (CRCL) and Government Opium and Alkaloid Work (GOAW)

Annexure II - Specifications of Equipment/ Instruments for Bhutan

2.7.2 Details of the goods and services to be supplied, terms, conditions and procedure for tendering, tender evaluation, placement of contract, the applicable contract terms and, also, the standard formats to be used for this purpose are incorporated in the above-mentioned documents. Tenderers are expected to examine all these details before submitting their tenders.

## **2.8 Amendments to Tender Enquiry Documents**

2.8.1 Purchaser may, at any time prior to the deadline for submission of tenders, for any reason, whether at his own initiative or in response to a clarification requested by a potential tenderer, modify the Tender Documents by issuance of Addenda or Corrigenda. They can be downloaded from the website [www.cbec.gov.in](http://www.cbec.gov.in); [www.dolcbec.gov.in](http://www.dolcbec.gov.in) or [www.eprocure.gov.in](http://www.eprocure.gov.in).

2.8.2 All such amendments shall be binding on the tenderer. The tender Documents shall be deemed to be amended only by way of the amendments mentioned above. Any other communication issued to the tenderers shall not be construed as an amendment to the Tender Documents.

2.8.3 In order to give the potential tenderer reasonable time to prepare their tenders as per the amendment, the Purchaser may, at its discretion extend the deadline for the submission of tenders and other allied time frames, which are linked with that deadline.

## **2.9 Clarifications on Tender Enquiry Documents**

2.9.1 Prospective tenderers seeking clarifications on the tender document should submit their queries *online* by 17.04.2017 upto 1500 hrs. These queries would be answered in the pre-bid conference. Instructions for submitting online tender is enclosed in Appendix-1.

2.9.2 A Pre-Bid conference will be held on 24.04.2017 at 1500 hrs. in the office of the Commissioner, Directorate of Logistics, 4th Floor, 'A' Wing, Lok Nayak Bhawan, Khan Market, New Delhi 110511. Tenderers or their authorized representative(s) may attend the Pre-bid conference. The authorized representative(s) who attend the Pre-Bid Conference should bring with them letters of authority from the tenderer they represent.

2.9.3 All clarifications provided at or in connection with the pre-bid conference shall be uploaded on the departmental website [www.cbec.gov.in](http://www.cbec.gov.in) or [www.eprocure.gov.in](http://www.eprocure.gov.in). No queries and requests for clarifications will be entertained after the Pre-Bid Conference.

## **2.10 Documents Comprising the Tender**

2.10.1 The Tender shall be submitted online in two covers, First cover will contain Technical Bid and second cover will contain Price Bid.

2.10.2 Technical Bid i.e. first cover, shall, *inter alia*, contain the following:

- a) Scanned copy of Tender fee as per instructions given in GNIT.
- b) Scanned copy of Earnest money furnished in accordance with clause 2.16.1 of Section II or, documentary evidence as per clause 2.16.1 of Section II for claiming exemption from payment of earnest money.
- c) Tender Form as per Form-1 of Section IX.
- d) Documentary evidence, establishing that the tenderer is eligible to submit the tender and, also, qualified to perform the contract if it's tender is accepted. The documentary evidence needed to establish the tenderers qualifications shall be:
  - (i) In case the tenderer offers to supply goods, which are manufactured by some other firm, the tenderer has been duly authorised by the goods manufacturer to quote for and supply the goods to the Purchaser. The tenderer shall submit the manufacturer's authorization letter to this effect as per the standard form provided under Form - 2 of Section IX in this document.

- (ii) The tenderer has the required financial, technical, production and maintenance capability necessary to perform the contract and, further, it meets the qualification criteria incorporated in the Section VII in this documents.
  - (iii) In case the tenderer is not doing business in India, it is duly represented by an agent stationed in India fully equipped and able to carry out the required contractual functions and duties of the tenderer including after sale service, maintenance & repair etc. of the goods in question, stocking of spare parts and fast moving components and other obligations, if any, specified in the conditions of contract and/or technical specifications.
- e) Documents and relevant details to establish that the goods and the allied services to be supplied by the tenderer conform to the requirement of the tender documents. These include documents such as technical data, literature, drawings, etc.
  - f) Power of Attorney of firm / resolution of Board of Directors of company for person or persons authorized to sign the Tender;
  - g) Power of Attorney / Authorization letter by the Manufacturer to Indian company/ firm/ representative to represent the Manufacturer in India;
  - h) Copies of documents defining constitution and legal status of the tenderer;
  - i) Documents indicating arrangements with the OEM (if the Tenderer is not an OEM itself);
  - j) Copies of fax messages and letters sent and received during the Tender period;
  - k) Certified published annual reports for the last three years showing the turnover and financial results of the Tenderer;
  - l) Documentary proof to show that the tenderer has supplied the number of quoted instruments during the past three years in India or abroad as per Table – II.
  - m) Documentary proof to show that the tenderer has maintained number of instruments per year under warranty/AMC in India during the past three years as per Table – II.
  - n) Documents indicate the arrangements in regard to maintenance during warranty and post warranty periods; including copies of documents long-term agreement between the tenderer and the maintenance entity, if any.
  - o) Performance certificates for the offered equipment/ instruments from the existing users in India.
  - p) An undertaking to the effect that the Price bid does not contain any conditions whatsoever of the price demanded for sale.

Please Note –

1. The tender is required to be submitted online by a person having digital signature issued by any Certifying Agency. If the tender submitted by proprietary or partnership firm, all the documents are required to be signed and stamped on every page. In the event of the Tender being submitted by a partnership firm, it should be signed separately by each partner thereof, or in the event of the absence of any partner, it should be signed on his behalf by a person holding a power of attorney authorizing him to do so. Such power of attorney, duly notarized should be submitted with the Tender, and it should clearly mention the registration/ incorporation particulars of the firm. In the case of a company the tender should be signed by person(s) authorized by a resolution of the Board of Directors of the Company. A copy of the relevant resolution, certified by the company Secretary shall be enclosed. Further, in the case of company, Board of Directors needs to authorise individual to obtain digital signature to represent the company. Scanned copy of this authorization is also required to be uploaded.
2. The Tenderers may also enclose with their tenders, technical literature and documents other than requested in tender, as considered necessary by them.

2.10.3 Price bid shall be as per proforma given in Section VIII of the Tender document. It shall be ensured that Price bid is only submitted online.

2.10.4 Indication of the bid price in the Technical bid directly or indirectly will render the entire bid invalid.

2.10.5 A tender, which does not fulfil any of the above requirements and/or gives evasive information / reply against any such requirement, shall be liable to be ignored and rejected.

## **2.11 Tender currencies**

2.11.1 Equipment / Instrument price may be quoted in Indian rupees or in any freely convertible currency. However, the installation and commissioning charges should be quoted in Indian rupees only. Also, price for maintenance services should be quoted in Indian Rupees only. The prices should be quoted both in figures and in words, in such a way that interpolation is not possible.

2.11.2 Commission for Indian Agent, if any payable by the tenderer, should be indicated in the price schedule in Indian Rupees only.

2.11.3 Tenders, where prices are quoted in any other way shall be treated as unresponsive and rejected.

## **2.12 Contract Price**

2.12.1 The Contract Price of the equipment/ instrument shall be the price of equipment/ instrument chargeable for delivery at the place of installation. This price shall be firm and fixed and not subject to any variation except in cases where the rate of applicable taxes payable in India or at the place of delivery undergoes a change. These taxes shall be paid as per actuals. The contract price shall also include the cost of installation & commissioning, insurance, inspection & survey charges, test and trials, delivery, training, services of manufacturer's for two years warranty period and CCAMC.

2.12.2 If Purchaser is required by Indian Law to deduct or withhold any other taxes or other amounts, the gross amount payable by Purchaser shall be paid after making such deductions or other withholdings. Necessary certificate for the deductions so made will be issued by the Purchaser.

2.12.3 The Contract Price shall not be subjected to any adjustment in respect of rise or fall in the cost of labour, materials, currency rate variation, devaluation or any other matter having implication on the cost of the execution of the Contract and adjustments for subsequent legislation, statute, ordinance, decree, law, regulation that may occur in the country in which the equipment/ instrument is being manufactured.

2.12.4 Further, during the period of delivery systems, in case the supplier delivers equipment/ instrument having same quoted model at less price to any other party (price being the sole consideration in the supply), the contract price will be deemed to have been reduced by the difference between the price offered to the Purchaser and the other party. Any difference in the terms of supply shall be duly accounted in the process.

2.12.5 Centralised Comprehensive Annual Maintenance charges for post-warranty maintenance shall include the cost of spare parts / consumable that will be required to be replaced, inclusive of taxes and duties on such spare parts/ consumables. Service tax/ education cess on the contract charges shall be mentioned separately. Only service tax/ education cess will be reimbursed as per actual.

## **2.13 Duties and Taxes**

2.13.1 The tenderer shall pay all non-Indian taxes, duties, and levies, lawfully assessed against the Purchaser or the tenderer in pursuance of the contract.

2.13.2 All the duties and taxes paid by the Supplier in India or at the place of delivery will be reimbursed as per actual. No claim, on account of increase in cost of the raw materials due to increase of taxes or duties, will be entertained.

2.13.3 The tenderer should indicate tentative duties and taxes in the proforma as applicable on the date of opening of technical bids. However, payment of duties and taxes shall be made as per actual and the statutory variations in taxes and duties shall be allowed during the delivery period as agreed in terms of the Contract. The Purchaser shall get the benefit if duties and taxes get reduced and pay extra to the supplier if the same increase. However, the variations shall not apply to any duties or taxes on the raw material/components/inputs.

2.13.4 The Purchaser is not liable to any claim on account of fresh imposition and / or increase of statutory duties or taxes on the raw materials and / or components used directly in the manufacture of the contracted stores taking place during the pendency of the contract.

2.13.5 In case the Purchaser finds the duties and taxes mentioned incorrectly, the Purchaser reserves the right to change it to the values considered appropriate and in that event the price quoted by the tenderer shall be adjusted accordingly. If it is felt that the duties were mentioned incorrectly to gain unfair advantage the tender shall be liable to be rejected.

2.13.6 The Supplier shall intimate to the Purchaser the anticipated delivery date of the equipment/ instrument, 30 (Thirty) days in advance of the anticipated date of delivery.

## 2.14 Terms and Mode of Payment

2.14.1 The detailed terms and mode of payment shall be as under:

S. No.	Stage	Payment	Documents to be submitted
1	On Installation of equipment/ instrument	80% of the Basic cost of equipment/ instrument	1. Supplier's commercial invoice in duplicate. 2. Installation certificate issued by the user Laboratory (as per Section IX).
2	On payment of Taxes & Duties	100% Taxes and Duties	Document showing proof of payment of taxes & duties on equipment/ instrument, duly attested by the appropriate authority.
3	On Commissioning of equipment/ instrument	Balance 20% of the Basic cost of the equipment/ instrument + other charges, if any	1. Supplier's commercial invoice in duplicate. 2. Delivery & Acceptance Certificate as per Section IX. 3. Bank Guarantee equivalent to balance 10% of amount in the Proforma given in Section IX.

Note: Basic cost of the machine will include Cost of the equipment/ instrument, Commissioning & Installation, Insurance, Freight, Commission of the Agent, if any and Cost for any other value addition.

2.14.2 No advance payment shall be made.

2.14.3 The payment shall be made in the currency / currencies authorised in the contract.

2.14.4. The payment in foreign currency shall be made through Direct Bank Transfer (DBT) in the quoted currency. The rate of exchange shall be the rate on the day of release of payment.

2.14.5 The Supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, as specified

2.14.6 While claiming payment, the Supplier should also certify in the bill that the payment being claimed is strictly in terms of the contract and all the obligations on the part of the Supplier for claiming that payment has been fulfilled as required under the contract.

2.14.7 While claiming reimbursement of duties, taxes etc. actually paid, to be supported by relevant documents, (like sales tax, excise duty, customs duty) from the Purchaser, as and if permitted under the contract, the Supplier shall also certify that, in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the Supplier) shall refund to the Purchaser, the Purchaser's share out of such refund received by the Supplier. The Supplier shall also refund the applicable amount to the Purchaser immediately on receiving the same from the concerned authorities.

2.14.8 The Bank Guarantee submitted against release of balance 20% payment shall remain valid till 90 days after the expiry of warranty period.

2.14.9 In case the machine is not attended to in respect to any defect developing during the warranty period and made functional, 10% Performance warranty security deposit and Bank Guarantee submitted against the release of 20% of balance payment shall be forfeited.

2.14.10 All costs, damages or expenses that the Purchaser may have paid to rectify the defects developed will be claimed by the Purchaser from the Supplier as and when they arise. Such bills shall be supported by appropriate and certified vouchers or explanations, to enable the Supplier to properly identify such claims. Such claims shall be paid by the Supplier within fifteen days of the receipt of the corresponding bills and if not paid by the Supplier within the said period, the Purchaser may then deduct the amount, from any moneys due or becoming due to him from the Supplier under the contract or may be recovered by actions of law or otherwise.

## **2.15 Indian Agent**

2.15.1 If a foreign tenderer has engaged an Indian agent in connection with its tender, the foreign tenderer, in addition to indicating Indian agent's commission payable by him, if any, in a manner described under GIT sub clause 2.11.2 above, shall also furnish the following information:

- a) The complete name and address of the Indian Agent and its permanent income tax account number as allotted by the Indian Income Tax authority.
- b) The details of the services to be rendered by the agent for the subject requirement.
- c) The Indian agent may also give details of registration with DGS&D, if available.

## **2.16 Earnest Money Deposit (EMD)**

2.16.1 The earnest money is required to protect the Purchaser against the Tenderer's withdrawing or altering its bid during the validity period. Hence an EMD amount as specified in Table-I, Section-I must accompany with the tender. EMD is required to be submitted at Directorate of Logistics, New Delhi by 12.05.2017 at 1500 hrs. Scanned copy of EMD is required to be uploaded along with Technical bid. Tenderers, who are currently registered and also will continue to remain registered during the tender validity period with Directorate General of Supplies and Disposal or with National Small Industries Corporation (NSIC), New Delhi are exempted from payment of Earnest money. In case the tenderer falls in these categories, they should furnish certified copy of their registration with these agencies, clearly specifying the details of items for which they are registered.

2.16.2 The earnest money shall be furnished in the form of Bank Guarantee as per format given in Form-3 of Section IX of this document.

2.16.3 The earnest money shall be valid for a period of 45 days beyond the validity period of the tender.

2.16.4 Unsuccessful tenderer's earnest money will be returned, without any interest, to them not later than 45 days after the expiry of the tender validity period. Successful tenderer's earnest money will be returned without any interest, after receipt of performance security from that tenderer.

2.16.5 Earnest money of a tenderer will be forfeited, if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender. The successful tenderer's earnest money will be forfeited if it fails to furnish the required performance security within the specified period.

## **2.17 Tender Validity**

2.17.1 The tender shall remain valid for acceptance for a period of 180 days (one hundred eighty days) from the date of tender opening prescribed in the tender document. Any tender valid for a shorter period shall be treated as non-responsive and rejected.

2.17.2 In exceptional cases, the tenderer may be requested by the Purchaser to extend the validity of their tenders up to a specified period. Such request(s) and responses thereto shall be conveyed by e-mail or fax followed by signed hard copy delivered by hand/post/courier. The tenderers, who agree to extend the tender validity, are to extend the same without any change or modification of their original tender and they are also to extend the validity period of the EMD accordingly.

2.17.3 In case the day up to which the tenders are to remain valid falls on/ subsequently declared a holiday or closed day for the Purchaser, the tender validity shall automatically be extended up to the next working day.

## **2.18 Instructions on e-tendering**

2.18.1 The Tenderers shall submit their tenders as per Clause 2.10 of this section.

2.18.2 Tender documents may be downloaded from Central Public Procurement Portal (CPPP) website: <https://www.eprocure.gov.in>.

2.18.3 Tender Bids shall be submitted online only at CPPP website: <https://eprocure.gov.in/eprocure/app>.

2.18.4 Tenderers are advised to follow the instructions provided in the “*Instructions to the Tenderers/Contractors for the e-submission of the bids online through the Central Public Procurement Portal for procurement at https://eprocure.gov.in/eprocure/app*”.

2.18.5 The server time (which is displayed on the Tenderers. dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the Tenderers, opening of bids etc. The Tenderers should follow this time during bid submission.

2.18.6 All the documents being submitted by the Tenderers would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.

2.18.7 The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

2.18.8 Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

2.18.9 The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for the bid opening meetings.

2.18.10 Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority or the relevant contact person indicated in the tender.

2.18.11 The Tenderer shall submit his technical bid as per the Tender form (Form-1 of Section IX) along with all necessary enclosures.

2.18.12 The technical bid should not indicate the bid price directly or indirectly. If it is so indicated, the entire bid will be invalid.

2.18.13 The tenderer shall submit his Price Bid strictly as per the Price Schedule given in Section VIII.

## **2.19 Alteration and Withdrawal of Tender**

2.19.1 The tenderer, after submitting its tender, is permitted to alter / modify its tender so long as such alterations / modifications are done within the deadline for online submission of tenders. Any alteration/ modification in the tender thereafter is not permitted.

2.19.2 No tender can be withdrawn after the deadline for online submission of tender and before expiry of the tender validity period. If a tenderer withdraws the tender during this period, it will result in forfeiture of the earnest money furnished by the tenderer in its tender.

## **2.20 Opening of e-Tenders**

2.20.1 The Purchaser will open on-line the Technical bids at 1500 hours on 16.05.2017. In case the specified date of tender opening falls on / is subsequently declared a holiday or closed day for the Purchaser, the tenders will be opened at the appointed time and place on the next working day.

2.20.2 Physical presence of the bidder at the time of opening of tender will not be essential in the e-tendering process. At the appointed time, the bid openers would open the bids online and the details of technical bids offered by the bidders would be known to all on the CPP Portal.

2.20.3 The first cover, i.e. technical bids will be opened first. These bids will be scrutinized and evaluated with reference to parameters prescribed in the tender document. If the details/data given in the technical bids are found in conformity with the technical specifications prescribed in Section V, testing of the models offered by the Tenderers may be carried out to ascertain the actual performance of the equipment/instruments.

2.20.4 The second cover, i.e. price bids of only technically acceptable offers shall be opened and evaluated. All Tenderers whose technical proposals have been found acceptable will be informed about the time and date the opening of the Price Bids.

## **2.21 Basic Principle**

2.21.1 Tenders will be evaluated on the basis of the terms & conditions already incorporated in the tender enquiry document, and amendments, if any based on which tenders have been received and the terms, conditions etc. mentioned by the tenderers in their tenders. No new condition will be brought in while scrutinizing and evaluating the tenders.

2.21.2 The Purchaser reserves the right to have the financial and other data / credentials claimed by the tenderer verified independently, if necessary by a third party. If the data/ credentials furnished are found to be incorrect, the Purchaser will reject the particular Tender summarily. The Purchaser also reserves the right to reject any Tender submitted by a party if it comes to know *suo moto* of any adverse reports on the financial condition or credentials of the tenderer.

## **2.22 Preliminary Scrutiny of Tenders**

2.22.1 The tenders will first be scrutinized to determine whether they are complete and meet the essential and important requirements, criteria, conditions, etc. as prescribed in the tender enquiry document. The tenders, which do not meet the basic requirements, are liable to be treated as non-responsive and ignored.

## **2.23 Minor Infirmary / Irregularity / Non-Conformity**

2.23.1 If during the preliminary examination, the Purchaser finds any minor infirmity and/or irregularity and/or non-conformity in a tender, the Purchaser may waive the same provided it does not constitute any material deviation and has no financial impact and, also, does not prejudice or affect the ranking order of the tenderers. Wherever necessary, the Purchaser will convey its observation on such 'minor' issues to the tenderer either online or by registered/speed post etc. asking the tenderer to respond by a specified date. If the tenderer does not reply by the specified date or gives evasive reply without clarifying the point at issue in clear terms, that tender will be liable to be ignored.

## **2.24 Discrepancy in Prices**

2.24.1 If, in the price structure quoted by a tenderer, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless the Purchaser feels that the tenderer has made a mistake in placing the decimal point in the unit price, in which case the total price as quoted shall prevail over the unit price and the unit price corrected accordingly.

2.24.2 If there is an error in a total price, which has been worked out through addition and/or subtraction of subtotals, the subtotals shall prevail and the total corrected; and

2.24.3 If there is a discrepancy between the amount expressed in words and figures, the amount in words shall prevail, subject to sub clause 2.24.1 and 2.24.2 above.

2.24.4 If, as per the judgement of the Purchaser, there is any such arithmetical discrepancy in a tender, the same will be suitably conveyed to the tenderer by registered / speed post. If the tenderer does not agree to the observation of the Purchaser, the tender is liable to be ignored.

## **2.25 Scrutiny & Evaluation of Tender Technical Bids**

2.25.1 Tenders of the Tenderers, who do not meet the required qualification criteria prescribed in Section VII, will be treated as non-responsive and will not be considered further.

2.25.2. The technical bids will be evaluated by the Tender Evaluation Committee (TEC) to assess the following:

- a) Is the bidder eligible and qualified to submit the tenders?
- b) Does the tender conform to all the Instructions to Tenderers?
- c) Are the goods and services offered as per the Schedule of Requirements and Technical Specifications?
- d) Is the proposed set-up for warranty and post-warranty maintenance satisfactory?
- e) Is the bidder capable of providing the goods and services?

## **2.26 Conversion of tender currencies to Indian Rupees**

2.26.1 All quoted prices of the responsive tenderers will be converted to a single currency viz., Indian Rupees for the purpose of equitable comparison and evaluation, as per the B.C. selling exchange rates established by the State Bank of India for similar transactions, as on the date of opening of the Price bid.

## **2.27 Contacting the Purchaser**

2.27.1 From the time of submission of tender to the time of awarding the contract, if a tenderer needs to contact the Purchaser for any reason relating to this tender enquiry and / or its tender, it should do so only in writing.

2.27.2 In case a tenderer attempts to influence the Purchaser in his/her decision on scrutiny, comparison & evaluation of tenders and awarding the contract, the tender of the tenderer shall be liable for rejection in addition to appropriate administrative actions being taken against that tenderer, as deemed fit by the Purchaser.

## **2.28 Purchaser's Right to accept any Tender and to reject any or All Tenders**

2.28.1 The Purchaser reserves the right to accept in part or in full any tender or reject any tender without assigning any reason or to cancel the tendering process and reject all tenders at any time prior to award of contract, without incurring any liability, whatsoever to the affected tenderer or tenderers.

2.28.2 The Purchaser reserves the right to disqualify any one or more tenderer on the grounds of national security and public interest.

## **2.29 Evaluation and Award Criteria**

2.29.1 Separate evaluation of Bids received for each type of tendered equipment/ instrument will be carried out.

2.29.2 Technical bids will be evaluated on the basis of information and data provided in the bids as well as the actual performance of the equipment/ instruments being offered. Technical bids of the Tenderers, who fulfil qualification criteria laid down in Section VII, shall be evaluated first in terms of requirements/specifications given in Section IV & V of the tender document. If the details/data given in the technical bids are found in conformity with the technical specification prescribed in Section V, testing of the models offered by the Tenderers may be carried out by the Tender Evaluation Committee to ascertain the actual performance of the equipment/ instrument. Tenderer, will arrange, at his cost, the demonstration of the equipment/ instruments.

2.29.3 The place of performance evaluation will be anywhere in India. In case the Tenderer wishes to temporarily import the equipment/ instruments for demonstration under this tender, he can do so at his own cost, as per procedures laid by Government of India in this regard. The cost of travel, stay, boarding etc. of the members of TEC, if any, for witnessing the performance will be borne by the Purchaser.



### 2.30 Price Bid

2.30.1 After determining at the technical evaluation stage that the equipment/ instruments offered are in conformity with the requirement and the offer of the Tenderer is found technically suitable; price bids of the Tenderers, whose technical bids are accepted, shall only be opened.

2.30.2 The lowest tenderer (L1) shall be determined on the basis of net cash outflow from the Purchaser in the first Seven years after commissioning and acceptance of the goods. Future cash flows for this purpose shall be converted into “net present values” by using the discounted cash flow procedure @ 9% per annum. The net cash outflow will be as under:

$$\text{Net cash outflow} = (P) + (M);$$

where (P) = Contract Price of the system; and (M) = Sum of discounted annual maintenance charges for five years.

For calculation of (M) above, payments on account of CCAMC shall be discounted to present values as under:

Sl. No.	Payments	Discounting factor	Net Present Value
	A	B	A / B
1	1 <sup>st</sup> Year CCAMC advance	1.19	
2	1 <sup>st</sup> Year CCAMC balance	1.30	
3	2 <sup>nd</sup> Year CCAMC advance	1.30	
4	2 <sup>nd</sup> Year CCAMC balance	1.41	
5	3 <sup>rd</sup> Year CCAMC advance	1.41	
6	3 <sup>rd</sup> Year CCAMC balance	1.54	
7	4 <sup>th</sup> Year CCAMC advance	1.54	
8	4 <sup>th</sup> Year CCAMC balance	1.68	
9	5 <sup>th</sup> Year CCAMC advance	1.68	
10	5 <sup>th</sup> Year CCAMC balance	1.83	
Sum of total discounted CCAMC charges (M)			

2.30.3 Based on the stipulations under clause 2.30.2, lowest tenderer will be decided separately for each type of equipment / instrument offered by the Tenderer. Hence, the tenderer may quote for one type or more than one type of tendered equipment / instrument.

2.30.4 Notwithstanding inclusion of CCAMC charges for the evaluation, the Purchaser reserves the right to get the maintenance done from any other service provider. All duties and taxes forming part of the Proforma in Section-VIII will be taken into account for purpose of evaluation of bids.

2.30.5 Subject to clause 28 above, the contract will be awarded to the lowest evaluated responsive tenderer decided by the Purchaser in terms of this clause.

### 2.31 Notification of Award

2.31.1 Before expiry of the tender validity period, the Purchaser will notify the successful tenderer(s) online as well as in writing, by registered / speed post or by fax/ telex/cable. The successful tenderer(s) must furnish to the Purchaser the performance security within twenty one days from the date of the notification in Form-4 of Section IX (details of the performance security are in clause 3.5 of Section III).

### 2.32 Issue of Contract

2.32.1 After notification of award, the Purchaser will mail the contract form (Form-5 of Section IX) to the successful tenderer by registered / speed post for signing.

2.32.2 Within twenty one days from the date of the award, the successful tenderer and Purchaser shall sign contract as per the mutually convenient date.

2.32.3 There shall be a separate contract for maintenance of the system for the post warranty period. The post warranty maintenance requirements are outlined in Section IV which will form the basis for issue of CCAMC.

2.32.4 Until the contract is signed, the notification of award shall constitute the conclusion of the contract.

**2.33 Non-Receipt of Performance Security and Contract by the Purchaser**

2.33.1 If the successful tenderer fails to provide performance security within the specified time or fails to sign the contract, his EMD will be forfeited and further actions as deemed necessary by the Purchaser will be taken against him.

**2.34 Publication of Tender Result**

2.34.1 The name and address of the successful tenderer(s) receiving the contract(s) will be displayed on the notice board of the Directorate of Logistics and also on the web site of the Purchaser [www.cbec.gov.in](http://www.cbec.gov.in) or [www.eprocure.gov.in](http://www.eprocure.gov.in) and [www.dolcbec.gov.in](http://www.dolcbec.gov.in)

**2.35 Process to be confidential**

2.35.1 Information relating to the examination, clarification, evaluation and comparison of Tenders and recommendations concerning the award of Contract shall not be disclosed to Bidders or to any other person(s).

**2.36 Title and Risk**

2.36.1. Title to and risk of the systems shall pass on to Purchaser upon delivery and acceptance thereof by the Purchaser after signing of certificate of delivery and acceptance as provided in Form- 8.

**2.37 Integrity Pact**

**2.37.1 Prospective tenderers have to sign a pre-bid, pre-contract Agreement called the Integrity Pact as per the format given in Form -11 of Section IX with the purchaser before submitting their tenders and in any case, at least two days prior to the last date for submission of tenders. For this purpose, they should send a letter or fax well in advance seeking a convenient date and time”.**

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## SECTION - III

### GENERAL CONDITIONS OF CONTRACT (GCC)

#### **3.1 Application**

3.1.1 The following General Conditions of Contract shall be applicable for this purchase.

#### **3.2 Use of contract documents and information**

3.2.1 The tenderer shall not, without the Purchaser's prior written consent, disclose the contract or any provision thereof including any specification, drawing, sample or any information furnished by or on behalf of the Purchaser in connection therewith, to any person other than the person(s) employed by the tenderer in the performance of the contract emanating from this tender enquiry document. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for the purposes of such performance for this contract.

3.2.2 The tenderer shall not, without the Purchaser's prior written consent, make use of any document or information mentioned in sub-clause 3.2.1 above except for the sole purpose of performing this contract.

3.2.3 Except the contract issued to the tenderer, each and every other document mentioned in sub-clause 3.2.1 above shall remain the property of the Purchaser and, if advised by the Purchaser, all copies of all such documents shall be returned to the Purchaser on completion of the Supplier's performance and obligations under the contract.

#### **3.3 Patent Rights**

3.3.1 The Supplier shall, at all times, indemnify and keep indemnified the Purchaser, free of cost, against all claims which may arise in respect of goods & services to be provided by the Supplier under the contract for infringement of any right protected by patent, registration of designs or trademarks. In the event of any such claim in respect of alleged breach of patent, registered designs, trademarks etc. being made against the Purchaser, the Purchaser shall notify the Supplier of the same and the Supplier shall, at his own expenses take care of the same for settlement without any liability to the Purchaser.

#### **3.4 Country of Origin**

3.4.1 All goods and services to be supplied and provided under the contract shall have the origin in India or in the countries with which the Government of India has trade relations.

3.4.2 The word "origin" incorporated in this clause means the place from where the goods are mined, cultivated, grown, manufactured, produced or processed or from where the services are arranged.

#### **3.5 Performance Security**

3.5.1 Within twenty one days after the issue of notification of award by the Purchaser, the tenderer, shall furnish performance security to the Purchaser for an amount equal to ten per cent of the total value of the contract. This Security shall remain valid up to 90 days after the date of completion of all contractual obligations by the Supplier, including the expiry of warranty obligations and signing of CCAMC.

3.5.2 The Performance security shall be in the form of Bank Guarantee issued by a Scheduled bank in India, in the prescribed form as provided in Form-4 of Section IX of this document.

3.5.3 If Tenderer fails to fulfil its obligations in terms of the contract, the amount of the performance security shall be payable to the Purchaser as compensation and the Purchaser can invoke the said Performance Bank Guarantee.

3.5.4 If any amendment is issued to the contract, the Supplier shall, within twenty one days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended.

3.5.5 Subject to sub-clause 3.5.4 above, the Purchaser will release the performance security without any interest to the Supplier on completion of the Supplier's all contractual obligations including the warranty obligations and signing of the CCAMC.

### **3.6 Technical Specifications and Standards**

3.6.1 The Goods and Services to be provided by the Supplier under this contract shall conform to the technical specifications and quality control parameters mentioned in 'Technical Specification' and 'Quality Control Requirements' under Sections V and VI of this document.

### **3.7 Packing and Marking**

3.7.1 The tenderer should pack the goods in strong and durable packing which can withstand, without limitation, the entire journey during transit including transshipment (if any), rough handling, open storage etc. without any damage, deterioration etc. As and if necessary, the size, weights and volumes of the packing cases shall also take into consideration, the remoteness of the final destination of the goods and availability or otherwise of transport and handling facilities at all points during transit up to final destination as per the contract.

### **3.8 Inspection and Quality Control**

3.8.1 The Purchaser and/ or its nominated representative(s) will inspect and/or test the ordered goods and the related services to confirm their conformity to the contract specifications and other quality control details incorporated in the contract at the cost of the purchaser. The Purchaser shall inform the Supplier in advance, in writing, the Purchaser's programme for such inspection and, also the identity of the officials to be deputed for this purpose.

3.8.2 The Technical Specification and Quality Control Requirements incorporated in the contract specify the inspections and tests are to be carried out and, also, where and how they are to be conducted. If such inspections and tests are conducted in the premises of the tenderer or its subcontractor(s), all reasonable facilities and assistance, including access to relevant drawings, design details and production data, shall be furnished by the Supplier to the Purchaser's inspecting authorities at no charge to the Purchaser. The cost towards the transportation, boarding and lodging of the purchaser and/or its nominated representative (s) shall be borne by the purchaser.

3.8.3 If during such inspections and tests the contracted goods fail to conform to the required specifications and standards, the Purchaser's inspecting authorities may reject them and the Supplier shall either replace the rejected goods or make all alterations necessary to meet the specifications and standards, as required, free of cost to the Purchaser and resubmit the same to the Purchaser's inspector for conducting the inspections and tests again.

3.8.4 In case the Purchaser seeks pre-despatch inspection of the ordered goods at Suppliers premises, the Supplier shall put up the goods for such inspection to the Purchaser's inspecting authorities well ahead of the contractual delivery period, so that they are able to complete the inspection within the contractual delivery period.

3.8.5 If the Supplier tenders the goods to the Purchaser's inspecting authorities for inspection at the last moment without providing reasonable time to the inspector for completing the inspection within the contractual delivery period, they may carry out the inspection and complete the formalities beyond the contractual delivery period at the risk and expense of the Supplier. The fact that the goods have been inspected after the contractual delivery period will not have the effect of keeping the contract alive and this will be without any prejudice to the legal rights and remedies available to the Purchaser under the terms & conditions of the contract.

3.8.6 The Purchaser's contractual right to inspect, test and, if necessary, reject the goods after the goods' arrival at the final destination shall have no bearing of the fact that the goods have previously been inspected and cleared by Purchaser's representatives during pre-despatch inspection mentioned above.

3.8.7 Goods accepted by the Purchaser and/or its Inspecting authorities at initial inspection and in final inspection in terms of the contract shall in no way dilute Purchaser's right to reject the same later, if found deficient in terms of the warranty clause of the contract, as incorporated under GCC, Clause 3.14 Section-III.

3.8.8 The Supplier/his Contractor/ sub-contractors shall comply with the provisions of Central Public Works Department's (CPWD) General Conditions of Contracts for Works in regard to site preparation, wherever required. This is a published document and is freely available in the market. It shall be referred and taken note of while making the Bid.

3.8.9 The equipment must fulfil all legal regulations on safety and health requirements (radiation, electrical, electro-magnetic, mechanical, etc.) and shall comply with the Electricity Acts, Rules, Codes & Standards as existing in India & Bhutan.

### **3.9 Terms of Delivery**

3.9.1 Goods shall be delivered by the Supplier in accordance with the terms of delivery specified in the Section IV.

### **3.10 Transportation of Goods**

3.10.1 The Supplier will arrange transportation of the ordered goods as per its own procedure.

### **3.11 Insurance**

3.11.1 The Supplier shall, in his own interest, insure the goods against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery. The Supplier shall be responsible till the entire stores contracted for arrive in good condition at destination. The transit risk in this respect shall be covered by the Supplier by getting the stores duly insured. The insurance cover shall be obtained by the Supplier in its own name and not in the name of the Purchaser or its Consignee.

### **3.12 Services**

3.12.1 The supplier shall provide services as detailed in the Schedule of requirements in Section IV.

3.12.2 Prices to be paid to the Supplier by the Purchaser for any of the required incidental services, if not already included in the contract price during the placement of the contract, shall be settled and decided in advance by the Purchaser and the Supplier. The Supplier shall certify in the invoice that the charged price do not exceed the contemporary rates charged by them to other customers for similar services.

### **3.13 Clearance / Receipt of Goods**

3.13.1 The Supplier shall make his own arrangements for clearance of goods through customs and their receipt and onward despatch for the site of installation.

### **3.14 Warranty**

3.14.1 The Supplier shall, by signing the contract, gives warranty that the goods supplied under the contract will be brand new, unused and in full accordance with the requirements of the enquiry specifications and incorporate state of art technology with all recent improvements in design and materials unless prescribed otherwise by the Purchaser in the contract. The Supplier further gives a warranty that the goods supplied under the contract shall have no defect arising from design, materials) or workmanship or from any act or omission of the tenderer, that may develop under normal use of the supplied goods under the conditions prevailing in India or at the place of Installation. The Supplier also gives warranty that the goods are not subject to any security, interest, lien or any other encumbrance.

3.14.2 This warranty shall remain valid for 24 months after the goods have been delivered, installed and commissioned at the final destination and accepted by the Purchaser in terms of the contract.

3.14.3 In case of any claim arising out of this warranty, the Purchaser shall promptly notify the same in writing to the Supplier.

3.14.4 Upon receipt of such notice, the Supplier shall, with all reasonable speed and within the time period prescribed in clause 4.11 and 4.12 of Section IV, repair / replace the defective goods or parts thereof, free of cost, at the ultimate destination. The Supplier shall take over the replaced parts/goods after providing their replacements and no claim, whatsoever shall lie on the Purchaser for such replaced parts/goods thereafter.

3.14.5 If any defect is rectified or defective goods are replaced during the warranty period, the warranty for the rectified/replaced goods shall be extended to a further period of twenty four months from the date of completion of its repair / replacement and the systems starts functioning to the satisfaction of the Purchaser.

3.14.6 If the Supplier, having been notified, fails to rectify/replace the defect(s) within a reasonable period the Purchaser may proceed to take such remedial action(s) as deemed fit by the Purchaser, at the risk and expense of the Supplier and without prejudice to other contractual rights and remedies, which the Purchaser may have against the Supplier.

### **3.15 Assignment**

3.15.1 The Supplier shall not assign to anyone, either in whole or in part, its contractual duties, responsibilities and obligations to perform the contract, except with the Purchaser's prior written permission.

### **3.16 Sub-contracts**

3.16.1 The Supplier shall notify the Purchaser in writing of all sub-contracts awarded under the contract. Such notification, in its original tender or later, shall not relieve the Supplier from any of its liability or obligation under the terms and conditions of the contract.

3.16.2 Sub-contract shall be only for bought out items, sub-assemblies & maintenance of goods and for the goods as a whole.

3.16.3 Sub-contracts shall also comply with the provisions of GCC Clause 3.4 ("Country of Origin").

### **3.17 Modification of contract**

3.17.1 If necessary, the Purchaser may, by a written order given to the Supplier at any time during the currency of the contract, amend the contract by making alterations and modifications within the general scope of contract in any one or more of the following:

- a) Specifications, drawings, design etc. where goods to be supplied under the contract are to be specially manufactured for the Purchaser;
- b) Additions in scope of services to be provided by the tenderer;
- c) Any other area(s) of the contract, as felt necessary by the Purchaser depending on the merits of the case.

3.17.2 In the event of any such modification/alteration causing increase or decrease in the cost of goods and services to be supplied and provided, or in the time required by the Supplier to perform any obligation under the contract, an equitable adjustment shall be made in the contract price and/or contract delivery schedule, as the case may be, and the contract amended accordingly. If the Supplier doesn't agree to the adjustment made by the Purchaser, the Supplier shall convey its views to the Purchaser within twenty one days from the date of the Supplier's receipt of the Purchaser's amendment / modification of the contract.

### **3.18 Delay in the Supplier's performance**

3.18.1 The Supplier shall deliver the goods and perform the services under the contract within the time schedule specified by the Purchaser in the Schedule of Requirements and as incorporated in the contract.

3.18.2 Subject to the Force Majeure provision under clause 3.22 of this section, any unexcused delay by the Supplier in maintaining its contractual obligations towards delivery of goods and performance of services shall render the Supplier liable to any or all of the following sanctions:

- i) imposition of liquidated damages,
- ii) forfeiture of its performance security and
- iii) termination of the contract for default.

3.18.3 If at any time during the currency of the contract, the Supplier encounters conditions hindering timely delivery of the goods and performance of services, the Supplier shall promptly inform the Purchaser in writing about the same and its likely duration and make a request to the Purchaser for extension of the delivery schedule accordingly. On receiving the Supplier's communication, the Purchaser shall examine the situation as soon as possible and, at its discretion, may agree to extend the delivery schedule, with or without liquidated damages for completion of Supplier's contractual obligations by issuing an amendment to the contract.

3.18.4 When the period of delivery is extended due to unexcused delay by the Supplier, the amendment *letter extending the delivery period shall, interalia contain the following conditions:*

- (a) The Purchaser shall recover from the Supplier, under the provisions of the clause 3.19 of the General Conditions of Contract, liquidated damages on the goods and services, which the Supplier has failed to deliver within the delivery period stipulated in the contract.
- (b) That no increase in price on account of any ground, whatsoever, including any stipulation in the contract for increase in price on any other ground and, also including statutory increase in or fresh imposition of customs duty, excise duty, sales tax or on account of any other tax or duty which may be levied in respect of the goods and services specified in the contract, which takes place after the date of delivery stipulated in the contract shall be admissible on such of the said goods and services as are delivered and performed after the date of the delivery stipulated in the contract.
- (c) But nevertheless, the Purchaser shall be entitled to the benefit of any decrease in price on account of reduction in or remission of customs duty, excise duty, sales tax or any other duty or tax or levy or on account of any other grounds, which takes place after the expiry of the date of delivery stipulated in the contract.

3.18.5 The Supplier shall not despatch the goods after expiry of the delivery period. The Supplier is required to apply to the Purchaser for extension of delivery period and obtain the same before despatch. In case the Supplier despatches the goods without obtaining an extension, it would be doing so at its own risk and no claim for payment for such supply and / or any other expense related to such supply shall lie against the Purchaser.

### **3.19 Liquidated damages**

3.19.1 Subject to Clause 3.22 of this Section (Force Majeure), if the Supplier fails to complete the installation and commissioning of the equipment within the time fixed under the contract, the Purchaser shall without prejudice to any other rights and / or remedy as may be available to the Purchaser under the Contract, shall deduct from the Contract price as an agreed Liquidated damages amount @ 1% of value of undelivered goods per week or part thereof until actual delivery or performance, subject to a maximum of 10% of the contract price.

3.19.2 If the delay exceeds two months from the scheduled date of supply, the Purchaser shall have the right to terminate the contract at the risk and cost of the Supplier.

3.19.3 The amount of Liquidated damages may be adjusted or set-off against any sum payable to the Supplier under this or any other contract with the Purchaser.

### **3.20 Termination for default**

3.20.1 The Purchaser may, without prejudice to any other contractual rights and remedies available to it (the Purchaser), by written notice of default sent to the Supplier, terminate the contract in whole or in part, if the Supplier fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the Purchaser under sub-clauses 3.18.3 and 3.18.4 of this Section.

3.20.2 In the event of the Purchaser terminates the contract in whole or in part, pursuant to GCC sub-clause 3.20.1 above, the Purchaser may procure goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit and the Supplier shall be liable to the Purchaser for the extra expenditure, if any, incurred by the Purchaser for arranging such procurement.

3.20.3 Unless otherwise instructed by the Purchaser, the Supplier shall continue to perform the contract to the extent not terminated.

### **3.21 Termination for insolvency**

3.21.1 If the Supplier becomes bankrupt or otherwise insolvent, the Purchaser reserves the right to terminate the contract at any time, by serving written notice to the Supplier without any compensation, whatsoever, to the Supplier, subject to further condition that such termination will not prejudice or affect the rights and remedies which have accrued and / or will accrue thereafter to the Purchaser.

### **3.22 Force Majeure**

3.22.1 Notwithstanding the provisions contained in GCC clauses 3.18, 3.19 and 3.20, the Supplier shall not be liable for imposition of any such sanction so long the delay and/or failure of the Supplier in fulfilling its obligations under the contract is the result of an event of Force Majeure.

3.22.2 For purposes of this clause, Force Majeure means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not brought about at the instance of the Supplier claiming to be affected by such event or which if anticipated or foreseeable, could not be avoided or provided for and which has caused the non-performance or delay in performance. Such events may include, but are not restricted to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes and lockouts (not restricted to the establishment of the affected party) and freight embargoes but shall not include the unavailability of funds.

3.22.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof within twenty one days of occurrence of such event. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

3.22.4 If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.

3.22.5 In case due to a Force Majeure event the Purchaser is unable to fulfil its contractual commitment and responsibility, the Purchaser will notify the Supplier accordingly and subsequent actions taken on similar lines described in above sub-paragraphs.

### **3.23 Termination for convenience**

3.23.1 The Purchaser reserves the right to terminate the contract, in whole or in part for it's (Purchaser's) convenience, by serving written notice on the Supplier at any time during the currency of the contract. The notice shall specify that the termination is for the convenience of the Purchaser. The notice shall also indicate *inter alia*, the extent to which the Supplier's performance under the contract is terminated, and the date with effect from which such termination will become effective.

3.23.2 The goods and services which are complete and ready in terms of the contract for delivery and performance within thirty days after the Supplier's receipt of the notice of termination shall be accepted by the Purchaser following the contract terms, conditions and prices. For the remaining goods and services, the Purchaser may decide:

- a) To get any portion of the balance completed and delivered at the contract terms, conditions and prices;  
and / or
- b) To cancel the remaining portion of the goods and services and compensate the Supplier by paying an agreed amount for the cost incurred by the Supplier towards the remaining portion of the goods and services.

### **3.24 Governing language**

3.24.1 The contract as well as all correspondence and other documents pertaining to the contract, which the parties exchange, shall be in English.

### **3.25 Notices**

3.25.1 Notice, if any, relating to the contract given by one party to the other, shall be sent by e-mail or fax and confirmed through a signed hard copy delivered by hand/post/courier. The sender shall retain proof of receipt of the notice by the receiver. The addresses of the parties for exchanging such notices will be the addresses as incorporated in the contract.



3.25.2 Any and all notices and communications in connection with this Contract shall be in English and shall be addressed as follows, unless and until otherwise advised to the Purchaser at:

**Commissioner  
Directorate of Logistics,  
Customs and Central Excise  
4<sup>th</sup> Floor, 'A' Wing, Lok Nayak Bhawan,  
Khan Market, New Delhi - 110 511  
Phone: 91-11-24693529 Fax: 91-11-24697497**

3.25.3 The effective date of a notice shall be either the date when delivered to the recipient or the effective date specifically mentioned in the notice, whichever is later.

### **3.26 Resolution of disputes**

3.26.1 In the event of any dispute or difference between the parties hereto, such disputes or differences shall be resolved amicably by mutual consultation. If such resolution is not possible, then the unresolved dispute or difference shall be referred to arbitration of the sole arbitrator to be appointed by the Secretary, Department of Revenue, on the recommendation of the Secretary, Department of Legal Affairs ("Law Secretary"), Government of India. The provisions of Arbitration and Conciliation Act, 1996 (No.26 of 1996) shall be applicable to the arbitration. The venue of such arbitration shall be at New Delhi or any other place, as may be decided by the arbitrator. The language of arbitration proceedings shall be English. The arbitrator shall make a reasoned award (the "Award"), which shall be final and binding on the parties. The cost of the arbitration shall be shared equally by the parties to the agreement. However, expenses incurred by each party in connection with the preparation, presentation shall be borne by the party itself.

3.26.2 Pending the submission of and/or decision on a dispute, difference or claim or until the arbitral award is published; the Parties shall continue to perform all of their obligations under this Agreement without prejudice to a final adjustment in accordance with such award.

### **3.27 Applicable Law and Jurisdiction**

3.27.1 The contract shall be governed by the laws of India for the time being in force. Subject to clause 3.26 above (Resolution of disputes), the Courts of Delhi shall have exclusive jurisdiction in all matters or disputes arising under or in respect of this contract.

### **3.28 General / Miscellaneous**

3.28.1 The Supplier shall always accord most favoured client status to the Purchaser vis-à-vis other Purchaser of its machines and shall always give the most competitive price for its machines to the Purchaser.

3.28.2 Any failure or delay on the part of any Party to exercise right or power under this Contract shall not operate as waiver thereof.

3.28.3 The Supplier shall notify the Government of India of any material change in their status or that of its Guarantor, in particular, where such change would impact on performance of the obligations under the Contract or the Guarantee(s).

3.28.4 Each member / constituent of the Supplier, in case of a consortium, shall be jointly and severally liable to and responsible for all obligations towards the Government for performance of contract / services including that of its Associates / Sub-Contractors under the Contract.

3.28.5 The Supplier shall, at all times indemnify and keep indemnified the Purchaser or an officer or an agent of Purchaser against any claims in respect of any damages or compensation payable in consequences of any accident or injury sustained or suffered by its employees or agents or by any other third Party resulting from or by any action, omission or operation conducted by or on behalf of the Supplier / its Associate / affiliate etc. or for failure or neglect. If any action in court is brought against the Purchaser or an officer or agent of the Purchaser for the failure or neglect on the part of the Supplier to perform any acts, matters, covenants or things under the Contract, the Supplier shall in all such cases indemnify and keep the

Purchaser and/or his representative, harmless from all losses damages expenses or decrees arising out of such action.

3.28.6 All claims regarding indemnity including Clause 3.3 and 3.28.5 etc. shall survive the termination or expiry of the Contract.

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**SECTION - IV**  
**SCHEDULE OF REQUIREMENTS**

**4.1 Scope of Work**

- i) Supply of 58 Units of Equipment/ Instrument (with essential accessories, spares, consumables, etc.), including site works (related to installation, as required), and installation & commissioning;
- ii) Obtaining regulatory/statutory clearances, as necessary, and Training of staff of User Commissionerate;
- iii) Maintenance during warranty period of 2 (two) years including supply of spare parts and consumables;
- iv) Centralised Comprehensive Annual Maintenance Contract (hereinafter referred to as CCAMC), for a period of 5 (five) years after completion of warranty period of two years; and
- v) Product Support for ten years after expiry of warranty period and provide upgrades from time to time.

**4.2 Delivery Schedule**

4.2.1 Equipment/ Instrument should be supplied, installed and commissioned within 6 (six) months from the date of award of order.

**4.3 Terms of Delivery**

4.3.1 Any loss or damage to the equipment due to mishandling, transportation, till such time the equipment is delivered at the site shall be to tenderer's account. The tenderer shall be responsible for preferring of all claims and make good for the damage of loss by way of repairs and/or replacement of the portion of equipment damaged or lost.

4.3.2 Upkeep of the Equipment/ Instrument till the time of their commissioning and delivery shall be the responsibility of the tenderer. No extra cost for upkeep of machine shall be payable to the supplier if the installation & commissioning of the machine at particular destination(s) is delayed for reasons not attributable to the Govt.

4.3.3 The successful tenderer shall be responsible to ensure the following: -

- i) Sound packing of the items.
- ii) Shipment of the items
- iii) Insurance
- iv) Custom clearance and handling of items at port of entry in India or in the place of Installation, if any.
- v) Forwarding and transshipment of items up to the destination.
- vi) Insurance for inland transportation and payment of duties.
- vii) Receipt of equipment at the site.
- viii) Installation & commissioning of equipment at the site. (This includes all requisite site works.)
- ix) Maintenance of the equipment during the warranty period.
- x) Comprehensive maintenance of the equipment during the post warranty period
- xi) Software up-gradation

**4.4 Locations for Commissioning**

4.4.1 Locations for installation of Equipment/ Instrument shall be as per the table given hereunder:

Sl. No.	Place of Installation	Concerned Commissionerate	Name of Instruments & Required Quantity for Revenue Laboratories of Govt. of India												
			UV-Vis Spectrophotometer	FTIR Spectrophotometer	Gas Chromatograph	HP Liquid Chromatograph	GC-MS	LCMS	XRD	HPTLC-MS	IR-MS	ICP-MS	LC-MS-MS	NMR	Mobile Testing Van
1.	CRCL, New Delhi	CRCL, New Delhi	-	1	1	1	1	1	1	1	1	1	1	1	1
2.	Custom House Laboratory, Mumbai	Custom Commissionerate, Mumbai	1	1	1	1	1	1	-	-	-	-	-	-	-
3.	Custom House Laboratory, Kolkata	Custom Commissionerate, Kolkata	1	1	1	1	1	1	-	-	-	-	-	-	-
4.	Custom House Laboratory, Chennai	Custom Commissionerate, Chennai	1	1	1	1	1	1	-	-	-	-	-	-	-
5.	Custom House Laboratory, Kandla	Custom Commissionerate, Kandla	1	1	1	1		-	-	-	-	-	-	-	-
6.	Custom House Laboratory, Kochi	Custom Commissionerate, Kochi	1	1	1	1		-	-	-	-	-	-	-	-
7.	Custom House Laboratory, Vizag	Custom Commissionerate, Vizag	1	1	1	1		-	-	-	-	-	-	-	-
8.	GOAW, Ghazipur	GOAW, Ghazipur	1	1	1	1	1	1	-	-	-	-	-	-	-
9.	GOAW, Neemuch	GOAW, Neemuch	1	1	1	1	1	1	-	-	-	-	-	-	-

Sl. No.	Place of Installation	Concerned Office	Name of Instruments & Required Quantity for Royal Government of Bhutan			
			HP Liquid Chromatograph	Gas Chromatograph	UV-Visible Spectrophotometer	GC-MS
1.	Bhutan,	Bhutan,	1	1	1	1

#### **4.5 Facilities by the Purchaser**

4.5.1 Purchaser will provide air-conditioned room with instrument platform/ table. Electrical and water connections may also be available, wherever, required. All other provisions for the installation, commissioning and operation of the equipment/ instruments shall be made by the Supplier.

#### **4.6 Site Restrictions**

4.6.1 Supplier and his employees shall not trespass beyond the boundary limits of the site on to any adjoining area and the Supplier shall take necessary action to prevent trespassing and shall follow all security regulations and access control as enforced at site by the concern Laboratory, concerned government authorities or their representatives in regard to men & material movement.

4.6.2 It is likely that equipment / instruments being supplied by the Supplier need to be installed in a room / area where already other equipment / instruments are under operation. The Supplier and his employees shall ensure that the operation of existing equipment / instruments is not affected during the installation and commissioning of equipment / instruments under supply. Instructions and guidelines provided by the Laboratory-in-charge/Purchaser's representative shall be adhered to at the site of installation.

#### **4.7 Progress**

4.7.1 The Supplier shall submit a detailed Time Bar Chart within 15 days of the placement of order indicating number of activities covering various key phases of manufacturing and installation works such as procurement, manufacturing, despatch etc. The Supplier shall discuss the Bar Chart so submitted with Purchaser and the same after revision by the Purchaser, if any, shall be reviewed and periodical review reports shall be submitted by the Supplier to the Purchaser.

#### **4.8 Product Support**

4.8.1 The tenderer must submit an undertaking to give product support for at least 10 years. Indemnity bond shall be furnished for providing product support for the period of 10 years from the date of expiry of warranty period before release of bank guarantee for 10% balance payment.

#### **4.9 Software and Software Upgrades**

4.9.1 The Supplier shall agree to provide copies of as-built software in executable code that are installed in the system at all levels. It shall also state the Hardware that needs to be in place for implementation ensuring that the Equipment/ Instrument un-availability is minimal. The Supplier shall also comply and guarantee software upgrades for the service life of the Equipment/ Instrument.

4.9.2 Taking into account the operational requirements of the Purchaser, there may be a need to customize some portion of the software. Supplier should agree for such customization, which is expected to be limited, at no extra cost.

4.9.3 Any software upgrades developed by the Supplier during the warranty and the post warranty period should be made available to the Purchaser at no extra cost and should be delivered and installed in a prompt and efficient manner. The Supplier should install and train the operator with software upgrades.

#### **4.10 General Maintenance Requirements**

4.10.1 To offer satisfactory service during warranty period of 2 (two) years the tenderer should either have his own service set-up in India or have an agreement with any indigenous manufacturer/ reputed entity experienced in the field of maintenance of tendered Equipment/ Instruments so that he can be fully associated right from the time the work is awarded till completion of warranty and defects liability period. The indigenous manufacturer/ entities should meet the eligibility criteria laid down in Section VII of this document.

4.10.2 The firm or contractor with whom the tenderer has an agreement for providing warranty maintenance may be involved with operation / maintenance of the equipment ab-initio to enable him to fully comprehend the work. The tenderer must intimate the name of such manufacturer, firm or contractor at the time of submission of tenders and a copy of the agreement between them which is valid for at least five years after end of warranty period should be enclosed to the Technical bid.

4.10.3 The agreement between the tenderer and the contractor should clearly specify that the Equipment/ Instrument manufacturer will give all the necessary technical support including supply of spares/ consumables to the contractor during the maintenance period so that the contractor can provide effective maintenance of the offered Equipment/ Instrument.

4.10.4 If the contractor fails to maintain the Equipment/ Instrument, it shall be the responsibility of the Tenderer/Supplier to undertake or arrange for maintenance at the rates agreed in the contract.

4.10.5 There shall be a separate contract for maintenance for the post-warranty period as distinct for the contract for supply of the equipment/ instrument.

#### **4.11 Warranty Maintenance**

4.11.1 Warranty maintenance should include complete equipment/ instrument and accessories.

4.11.2 During warranty period, the Supplier shall set right the machine immediately on receipt of complaint within maximum time limit of 48 hours in India/72 hours for Bhutan.

4.11.3 Preventive Maintenance shall be carried out at least once in six months during warranty period.

#### **4.12 Post warranty Maintenance**

4.12.1 The scope of CCAMC shall include (a) supply of all accessories, spare parts, consumables & peripherals, (b) periodical preventive visits, (c) unlimited 'on-call' visits to attend to the repairs and breakdowns.

4.12.2 During CCAMC all parts/components shall be repaired / replaced by the contractor. No extra payment for any of the above as in 4.12.1 shall be made.

4.12.3 Full particulars of maintenance service centres and qualified engineering staff should be enclosed to the tender bid.

4.12.4 Maximum time limit for attending to the complaint and making the Equipment/ Instruments operational is 48 hours in India/72 hours for Bhutan. Sunday and any other Govt. Holidays will not be included in the maximum time limit prescribed therein for attending and making the equipment operational.

4.12.5 The contractor shall carry out preventive maintenance visits at least once in quarter. However a gap of 10 to 12 weeks shall be maintained between two preventive visits.

4.12.6 50% of CCAMC charges would be paid as advance against a Bank guarantee for the same amount in a Proforma given in Form 6 of Section IX or Account payee Demand Draft / Fixed Deposit Receipt in favour of "PAO, O/o the Pr. C.C.A., C.B.E.C., New Delhi" issued from any scheduled Bank for the same amount. The balance amount would be paid after satisfactory completion of one year and on production of the Verification Reports of the User Commissionerates by the contractor. Service Tax & Cess will be paid extra on submission of proof of payment.

4.12.7 If the equipment remains non-operational continuously beyond the maximum time limit prescribed in para 4.12.4 of this Section, a deduction @ 0.5% of CCAMC charges per day for seven days and thereafter @1% of CCAMC charges per day will be made from the maintenance charges for the period (no. of days) during which the equipment remains non-operational. The amount shall be deducted from the annual maintenance charges, at the time of making the final / balance payment.

4.12.8 If the Maintenance Contractor fails to undertake the preventive maintenance visits within the time prescribed in para 4.12.5 above, a sum of 5 % of CCAMC charges shall be deducted at the time of making balance payment. If the Contractor fails to carry out preventive maintenance altogether during a preventive maintenance cycle, 10% of CCAMC charges shall be deducted.

4.12.9 Any dispute or difference in connection with the CCAMC contracts conditions shall also be resolved as per clause 3.26 and 3.27 of GCC.

4.12.10 The price charged by the tenderer shall not exceed the prevailing rates charged by him from others for similar services. While claiming payments the tenderer shall give a certificate to this effect in its each bill.

4.12.11 Performance security equivalent to 5% of the value of the contract shall be submitted by the tenderer at the time of signing CCAMC contract in the form of Account payee Demand Draft / Fixed Deposit Receipts in favour of “PAO, O/o the Pr. C.C.A., C.B.E.C., New Delhi” issued from any Commercial Bank or Bank Guarantee in the Proforma given in Section X. The Guarantee will remain valid during the currency of the contract.

4.12.12 The Purchaser reserves its right to terminate the maintenance contract at any time without assigning any reason. The tenderer will not be entitled to claim any compensation against such termination. However while terminating the contract, if any payment is due to the contractor for maintenance services already performed in terms of the contract, the same shall be paid to him as per the contract terms.

#### **4.13 Training of Staff**

4.13.1 Training is to be provided in the operation & general upkeep of the equipment/ instrument after installation & commissioning at the site. Training should also be imparted on sample analysis. Standard operating procedure (SOP) for the equipment/ instrument should be prepared and provided to the Purchaser’s staff at site.

4.13.2 Tenderer shall train 4 to 16 persons every year during warranty and 2 to 3 persons during post-warranty period. The cost for providing such training shall be deemed to have been included within the cost quoted.

#### **4.14 Long Term availability of Spares**

4.14.1 The Tenderer shall provide a part catalogue covering complete range of spares/components / consumables for the Equipment / Instruments and support structure.

4.14.2 Comprehensive list of spares shall be indicated in the Technical bid. Tenderer shall also provide recommended list of critical spares and test equipment.

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**SECTION - V**  
**TECHNICAL SPECIFICATIONS**

**5.1 General**

5.1.1 These specifications shall be read in conjunction with the General Conditions of Contract (GCC). If these are at variance with general conditions of contract, these will prevail. The technical specifications in this Section are indicative and not exhaustive. Tenderer should offer the advanced and efficient model of Equipment/Instrument.

**5.2 Supply Details**

5.2.1 Supply of 58 Units of Equipment/Instruments complete with accessories, spares, consumables, etc., as specified in this Section.

**5.3 General Requirements**

5.3.1 The work herein specified shall be performed by fully competent workmen in a thorough professional manner. All materials furnished by the tenderer shall be new, and shall conform to applicable Indian standards or any international standard.

5.3.2 The manufacturer shall provide one set of Software of the equipment in USB media, for each Equipment/Instrument. The same shall be handed over to the user Laboratory at the time of conducting Site Acceptance Test.

5.3.3 No-objection certificate (NOC) or Type approval from Atomic Energy Regulatory Board (AERB) of India should be submitted for the Equipment / Instruments deploying radiation source or as applicable, along with the Technical Bid. Alternately, the NOC or Type approval certificates must be submitted within 30 days from the date of opening of the technical bids of the tender.

**5.4 Specifications of Equipment/Instruments**

5.4.1 Specifications of the equipment/instruments required for CRCL and GOAW of Govt. of India are enclosed as Annexure-I.

5.4.2 Specifications of the equipment/ instruments required for Royal Govt. of Bhutan are enclosed as Annexure-II.

5.4.3 Equipment/ Instrument having better specifications will also be accepted, however, without any price preference.

**5.5 Equipment/ Instrument Acceptance & Calibration**

5.5.1 To check the performance of the equipment/ instrument, after installation and commissioning at site, the Tenderer is required to conduct analysis of Certified Reference Material (CRM) of Narcotics drugs & Psychotropic substances and inorganic compounds (for XRD and ICP-MS). In addition, laboratory samples will be also analysed before acceptance.

5.5.2 Tenderer should have its Application Laboratory in India to provide primary service support, including periodic calibration, as required. Details of the Application Laboratory may be submitted.

**5.6 Software**

5.6.1 The software offered by the tenderer for Equipment / Instrument must be licensed for life time and should not need any renewal.

**5.7 Responsibility for completeness**

5.7.1 Any component or part of it or accessories not mentioned in the specification but which are usual or necessary are to be provided by the tenderer without extra charge as to make the equipment complete in all respects to meet the specifications.



## **5.8 Instruction/Technical Manual**

5.8.1 The tenderer shall hand over to the user Laboratory the Instruction /Technical Manuals and one set of spare parts catalogue for all the equipment at the time of conducting Site Acceptance Test. It shall contain full details and drawings of all the equipment, testing, operation, installation and maintenance procedures of the equipment.

5.8.2 After commissioning and initial operation of the equipment, if the instruction manual requires any modification / additions / changes, the modified sheet shall be submitted by the tenderer to the Purchaser.

5.8.3 All manuals and documents shall be in English language and in such a way that a qualified engineer / technician is able to fully understand and do the preventive as well as breakdown maintenance with the help of these manuals.

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**SECTION - VI**  
**QUALITY CONTROL REQUIREMENT**

**6.1 Quality Control**

6.1.1 The tenderer shall provide adequate supervision at all stages of design, manufacture, integration/assembly, installation, commissioning, etc. and shall examine all components for accuracy before supply is completed.

**6.2 Installation at site**

6.2.1 When the Equipment/ Instrument is delivered and assembled at site, representative of the tenderer and the representative(s) of the user Laboratory shall jointly carry out the acceptance tests. The acceptance tests must include installation, inspection of all parameter specified in Section V.

6.2.2 Besides checking the specified parameters, the tenderer shall also perform trial runs with user Laboratories to demonstrate the operational capabilities of the equipment/ instrument.

6.2.3 When installation of the equipment/ instrument is successfully carried out at the site by the tenderer, an Installation certificate as per Form-7, given in Section IX, shall be issued by the user Laboratory/ Commissionerate and the Software in CD/ USB media and documents as mentioned in Section V shall be handed over to user Laboratories.

6.2.4 The user Laboratories shall not delay the issue of Installation certificate contemplated by this clause on account of minor defects in the supply which do not materially affect the use thereof provided that the Tenderer shall undertake to rectify the defect on priority.

6.2.5 In case after the inspection, the equipment/ instrument is accepted but not installed, responsibility for its proper upkeep and maintenance shall dwell on the user Laboratories till the equipment is installed. However, till the time the proper receipt / acknowledgement for delivery/ receipt of the equipment/ instrument is obtained, the responsibility for its proper upkeep and financial liability shall have to be borne by the tenderer.

**6.3 Commissioning**

6.3.1 After the installation, the equipment/ instrument shall be at the Purchaser's disposal for a trial period of 15 days. If the delivered equipment/ instrument performs in accordance with the agreed specifications and without faults or malfunctions during this period, the equipment/ instrument will be accepted. If not, the faults or malfunctions are to be rectified and a further trial period of 15 days is to be added to permit an additional attempt to meet the contract specifications. Maximum two additional attempts will be given to meet the contract specification. After two additional attempts if the Equipment is not found functioning/ performing properly as per the specification laid out in the tender, the Purchaser may reject the equipment/ instrument. The decision of the Purchaser in this regard shall be final and binding on the tenderer. The loss caused if any due to rejection shall be entirely borne by the tenderer. The tenderer shall return the amount paid to him along with interest @ 12% per annum. The department shall in no case be responsible for any loss of damage that may occur to the rejected stores while these are in its premises.

6.3.2 After commissioning of the equipment/ instrument and completion of Delivery, the user Laboratory will issue a Delivery & Acceptance certificate as per the proforma given in Section IX, Form - 8.

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**SECTION - VII**  
**QUALIFICATION CRITERIA**

**Tenderers who can Bid**

7.1 Only those who fulfil the following eligibility as well as the qualifications criteria can submit tenders.

ELIGIBILITY

7.2 To be eligible, the tenderer should have not been banned or suspended from Government transactions due to any reason including corrupt and fraudulent practices.

QUALIFICATION

7.3 Manufacturers of original equipment (OEM) may bid directly.

OR

7.4 Other Tenderers who have an irrevocable long-term (minimum seven years) agreement with an OEM. Terms of transfer of technical know-how or scope of agreement between the collaborators should be clearly spelt out and enclosed with the tender.

OR

7.5 An authorised agency/representative nominated by the OEM may also bid. Relevant documents indicating the tenderer is an authorised agency/representative of the OEM for bid submission shall be enclosed with tender bid. The OEM shall give an undertaking to supply components / parts/ consumables during warranty & post-warranty periods as well as continued supply of components/ spare parts for the period of product support. OEM shall also assure full technical back-up and support in the matter of providing maintenance including software up-gradations. Copy of agreement between OEM and the agency/representative confirming the above requirements and nomination from the OEM for supplying stores shall be enclosed with the tender. Only one nomination from the OEM shall be accepted. *[NB: In the event of the bid submitted by authorised agency/representative nominated by the OEM becoming successful, the contract shall be placed on the OEM, on whose behalf the bid has been made].*

7.6 Average annual turnover of the Tenderer/OEM should be at least Rs. 15 crores during last three financial years i.e. April 2013 to March 2016 and should have made profit (profit after tax) in each of these years. Certified and published annual reports of the past three years are to be submitted along with the tender.

7.7 The Tenderer/OEM should have supplied minimum number of the Equipment/Instrument, quoted for, in the last three years as per **Table –II**.

7.8 The Tenderer/OEM itself or through its authorised agency should have maintained similar type of Equipment/Instrument, in each year, in the past three years in India as per **Table –II**. A certificate to this effect with documentary proof should be enclosed by the Tenderers along with the Tender Form.

7.9 Only one bid will be accepted from OEM or through other Tenderer having long-term agreement with OEM or through authorised agency/representative nominated by OEM for any type of equipment/ instrument. In case if more than one bid for any type of equipment/ instrument is received from OEM or through other Tenderer having long-term agreement with OEM or through authorised agency/representative nominated by OEM, all such bids shall be summarily rejected.

\*\*\*\*\*

**TABLE - II**

Sl. No.	Name of Instruments	Number of units required	Minimum No. of units installed in India or abroad during last three years	Minimum No. of units maintained, per year, under warranty/ AMC during last three years in India
1.	UV-Vis Spectrophotometer	9	15	5
2.	FTIR Spectrophotometer	9	15	5
3.	Gas Chromatograph	10	15	5
4.	HP Liquid Chromatograph	10	15	5
5.	GC-MS	7	15	5
6.	LCMS	6	15	5
7.	XRD	1	5	5
8.	HPTLC-MS	1	5	5
9.	IR-MS	1	3	2
10.	ICP-MS	1	10	5
11.	LC-MS/MS	1	10	5
12.	NMR	1	10	5
13.	Mobile Testing Van	1	3	1

**SECTION – VIII**

**PART - I : PRICE SCHEDULE**

**[To be quoted separately for full quantity of each type of equipment/ instrument]**

S. No.	Detail of Cost	Unit Price of Equipment/ Instrument for Supply in <b>India</b>	Quantity (Nos.)	Unit Price of Equipment/ Instrument for Supply in <b>Bhutan</b>	Quantity (Nos.)
1	Cost of Equipment/ Instruments (including insurance and freight) in INR or any other free convertible foreign currency				
2	Installation and Commissioning charges, if any (chargeable to Service Tax & applicable Cess) in Indian Rupee only				
2	Customs Duty				
4	Excise Duty				
5	Service Tax				
6	Any other taxes				
7	Total Price of the Equipment / Instruments				
8	Grand Total: Unit Price x Quantity				

**Commission of the agent, if any**

Particulars	Amount (INR)
Commission of the India agent, if any to be paid by the Supplier, in Indian Rupee only	

**PART - II A: CCAMC [To be carried out in India]**

Year of AMC	Cost of CCAMC per equipment/ instrument (A)	Total cost of CCAMC B= (A) X Qty. ( i.e. no of Equipment/ Instruments)	Service Tax (C)	Grand Total Cost (B+ C)
First Year (after warranty period of two years)				
Second Year				
Third Year				
Fourth Year				
Fifth Year				
Grand Total				

**PART – II B : CCAMC [To be carried out in Bhutan]**

Year of AMC	Cost of CCAMC per equipment/ instrument (A)	Total cost of CCAMC B= (A) X Qty. ( i.e. no of Equipment/ Instruments)	Service Tax (C)	Grand Total Cost (B+ C)
First Year (after warranty period of two years)				
Second Year				
Third Year				
Fourth Year				
Fifth Year				
Grand Total				

## **SECTION - IX**

### **Form - 1**

### **TENDER FORM**

*(The technical bid should be as per this form)*

(GNIT e-Tender No. 01(AS)/2017 dated 31.03.2017)

***Please read the following INSTRUCTIONS carefully before filling up the form.***

1. The tenderer should obtain and/or download and carefully examine the above Tender Notice and all its tender enquiry documents (TED), including amendments, if any and unconditionally agree to all the terms and conditions indicated in the tender enquiry documents and subsequent amendments.
2. **The copy of the TED and amendments retained in the records of the Directorate will be deemed authentic in case of any dispute at any stage.**
3. The tenderer should fill in all columns of this Tender Form and enclose supporting documents. The e-tendering process may permit replacement of shortfall documents, e.g., a document which is not legible but no additional documents can be submitted after the tenders are opened. Tenderers should therefore submit whatever documents they wish, in support of their tender along with the tender itself.
4. The following tenders shall be ignored:
  - a) Tenders submitted by those who do not meet the qualification criteria;
  - b) Tenders sent by fax/telex/cable/email/post/personally delivered;
  - c) Tenders that do not meet the basic requirements;
  - d) Tenders which have any shortfall documents and the tenderer does not make up the shortfall within the time specified by the Purchaser;
  - e) Tenders where, in the opinion of the Purchaser, there is an arithmetical inaccuracy in the price bid and the tenderer does not agree with the Purchaser;
  - f) Incomplete tenders;
  - g) Tenders received without the EMD and processing fee.
5. Any tender may be rejected if:
  - a) The bid price is directly or indirectly indicated in the technical bid;
  - b) Tenderer fails to provide required information or provide incorrect information or gives evasive reply to the Purchaser's queries or modify/improve the tender;
  - c) Tenderer fails to comply with the instructions in the Tender Document;
  - d) The prices are not quoted in the manner indicated in the Tender Document;
  - e) Tender validity is for less than 180 days from the date of opening of tenders as indicated in the Tender Document;
  - f) On verification, the data/credentials furnished by the tenderer are found to be incorrect or any adverse report on requisite qualification criteria has come to the knowledge of the Purchaser;
  - g) Tenderer attempts to influence the Purchaser's decision during scrutiny, comparison and evaluation of tenders and award of contract;
  - h) Tenderer is disqualified on the grounds of national security or public interest.
6. The Purchaser is not bound to accept the lowest or any tender that may be received against the above-referred tender enquiry.
7. The Purchaser may accept any tender at any time before the date of expiry of its validity indicated in the tender form or any date up to which its validity is further extended by the tenderer.
8. Until a contract is signed, this tender form submitted by the tenderer read with its acceptance by the Purchaser constitutes a binding contract between them.

Having carefully gone through the above instructions and the TED, we, M/s. \_\_\_\_\_, the tenderer, agree to all the terms and conditions mentioned in them and hereby, make the following offer to supply goods and perform services as per the Schedule requirements, delivery schedule and in conformity with all other conditions in the TED and amendments. We will arrange for demonstration of models of the Equipment/ Instrument being offered, within India as per the convenience of the Purchaser.

**Tenderer**

1. Name of the tenderer \_\_\_\_\_
2. Address \_\_\_\_\_
3. Email \_\_\_\_\_
4. Phone \_\_\_\_\_ Fax \_\_\_\_\_
5. Income Tax Permanent Account Number (PAN): \_\_\_\_\_
6. Name and complete address of the Tenderer's bankers \_\_\_\_\_
  - a) \_\_\_\_\_
  - b) \_\_\_\_\_
7. Name and designation of the person digitally signing and submitting the tender \_\_\_\_\_
8. Is the person digitally signing and submitting the tender authorised by the tenderer? (Yes/No) *(Please enclose scanned copy of the Board's resolution authorising the person to submit the bids without which the tender will be rejected)*
9. Whether business dealings with the tenderer currently stand suspended/ banned by any Ministry/ Department of Govt. of India or any State Govt. (Yes/No)

**Qualification**

10. Is the tenderer an OEM of the goods being offered? Yes/No
11. Is the tenderer not an OEM, but has an irrevocable long-term agreement (minimum 7 years) with the OEM? (Yes/No) *(If yes, please enclose documents showing terms of transfer of technical know-how or scope of collaboration)*
12. Is the tenderer an authorised agency / representative duly nominated by the OEM? (Yes/No) *(If yes, please enclose required documents as mentioned in qualification criteria)*
13. Turnover of the tenderer during the past three years (in Rs. Crores)
 

2013-2014	_____
2014-2015	_____
2015-2016	_____
Average	_____

  
*(Please enclose certified published annual reports. If the accounts are maintained in some other currency, please give the figures in that currency as well as its conversion at the exchange rate on the date of filling up this form. If the accounts are managed calendar year wise, please provide figures for 2014, 2015 and 2016.)*
14. How many Equipment/ Instrument, being offered, has the tenderer supplied during the past three years in India or abroad? \_\_\_\_\_ *(Please enclose documentary proof)*
15. How many similar Equipment/ Instrument has the tenderer maintained under warranty/CCAMC during the past three years in India? \_\_\_\_\_ *(Please enclose documentary proof)*

**Original Equipment Manufacturer (if different from the tenderer)**

16. Name of the OEM manufacturing the Equipment/ Instruments \_\_\_\_\_
17. Address of the OEM \_\_\_\_\_
18. Phone \_\_\_\_\_

19. Fax \_\_\_\_\_  
20. Email \_\_\_\_\_

**Manufacturing company (whether tenderer or another OEM)**

21. Does the company manufacturing the offered Equipment/ Instrument have ISO certification for manufacturing such Equipment/ Instrument? \_\_\_\_\_ (Please enclose copy)  
22. Does the company manufacturing the offered Equipment/ Instrument have ISO certification for servicing such Equipment/ Instrument? \_\_\_\_\_ (Please enclose copy)

**Offer**

23. The tender is valid up to \_\_\_\_\_  
24. Make & Model Number of the Equipment/ Instrument offered \_\_\_\_\_

**Technical documents to be enclosed**

25. Clause-wise response/compliance to requirements specified in *Section-IV, Section-V, Annexure-I & Annexure-II, and Section-VI* of Tender Document. You may furnish additional information/clarifications, documents, etc., in support of your offer.

**Warranty and post-warranty maintenance**

26. Do you have your own set up in India to provide the maintenance during warranty period and after warranty period under CCAMC? (Yes/No)  
27. If yes, please provide details (in 100 words) including experienced manpower & resources details and enclose relevant documents  
\_\_\_\_\_  
\_\_\_\_\_

28. If answer to question at 26 above is no, do you have any agreement with any other manufacturer or reputed agency to act as Maintenance contractor to provide maintenance during warranty and post warranty period? (Yes/No)

29. If yes, please provide details (in 100 words) and enclose a copy of the agreement, including previous experience and manpower details of the proposed agency in maintenance of similar type of equipment/ instruments.

**Documents to be enclosed**

30. Have you paid the tender fee of Rs. 5,000/-? (Yes/No)  
31. Have you submitted the EMD? (Yes/No)  
32. Have you enclosed the following documents? (Yes/No)  
a. Scanned copy of the DD/ banker's cheque of Rs. 5,000/- (Rupees five thousand only) submitted in the Purchaser's office.(Yes/No)  
b. Scanned copy of the Bank Guarantee of Earnest money deposit (EMD)(Yes/No)  
c. Documentary evidence to show your eligibility, qualification and capability to provide the goods and services required as per this Tender Document including the establishment to carry out site works & services, installation & commissioning, maintenance and product support. (Yes/No)  
d. Documents and relevant details to establish that the goods and the allied services offered conform to the requirement of the tender documents.(Yes/No)  
e. Power of Attorney of firm / resolution of Board of Directors of company for person or persons authorized to sign the Tender ;(Yes/No)  
f. Power of Attorney / Authorization letter by the Manufacturer to Indian company/ firm/ representative to represent the Manufacturer in India; (Yes/No)  
g. Copies of documents defining constitution and legal status of the tenderer;(Yes/No)  
h. Documents indicating arrangements with the OEM (in the event of a collaborator



- bidding); (Yes/No)
- i. Documents indicating the arrangements between the tenderer and the Maintenance contractor, along with the details of experience & resources the Maintenance contractor possess ;(Yes/No)
  - j. Copies of fax messages and letters, if any, sent to and received from the Purchaser during the Tender period;(Yes/No/ There are none)
  - k. An undertaking to the effect that the Price bid does not contain any conditions whatsoever of the price demanded for sale. (Yes/No)
  - l. Certified published annual reports showing the turnover and financial results. (Yes/No)
  - m. Documents indicating the past supplies of the offered equipment / instruments. (Yes/No)
  - n. Performance certificates for the offered equipment/ instruments from existing users in India.
  - o. Any other documents/ technical literature that you consider necessary to strengthen your bid. (Yes/No/None required)
- 

.....  
(Signature with date)

.....  
(Name and designation)

Duly authorised to sign tender for and on behalf of  
\*\*\*\*\*

**Form - 2**

**MANUFACTURER'S AUTHORISATION FORM**

To

.....  
.....

(Name and address of the Purchaser)

Dear Sirs,

Ref. Your Tender Enquiry Document No....., dated .....

We ....., who are proven and reputable manufacturers of ..... (name and description of the goods offered in the tender) having factories at ....., hereby authorise Messrs ..... (name and address of the agent) to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred tender enquiry documents for the above goods manufactured by us.

We further confirm that no Supplier or firm or individual other than Messrs ..... (name and address of the above agent) is authorised to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred tender enquiry documents for the above goods manufactured by us.

We also hereby extend our full warranty, as applicable as per clause 14 of the General Conditions of Contract, for the goods and services offered for supply by the above firm against this tender enquiry document.

Yours faithfully,

.....  
.....

[Signature with date, name and designation]

for and on behalf of Messrs .....

[Name & address of the manufacturers]

Note : This letter of authorisation should be on the letter head of the manufacturing firm and should be signed by a person competent and having the power of attorney to legally bind the manufacturer.

\*\*\*\*\*

**Form - 3**

**BANK GUARANTEE FORM FOR EMD**

Whereas ..... (hereinafter called the “Tenderer”) has submitted its quotation dated..... for the supply of ..... (hereinafter called the “tender”) against the Purchaser’s tender enquiry No. .... Know all persons by these presents that we ..... of ..... (hereinafter called the “Bank”) having our registered office at ..... are bound unto ..... (hereinafter called the “Purchaser) in the sum of ..... for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents.

Sealed with the Common Seal of the said Bank this..... day of ..... 20.....

The conditions of this obligation are —

- (1) If the Tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- (2) If the Tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-
  - a) fails or refuses to furnish the performance security for the due performance of the contract or
  - b) fails or refuses to accept or execute the contract.

We hereby irrevocably and absolutely undertake to pay immediately the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition(s).

This guarantee will remain in force for a period of forty five days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

This guarantee will not be discharged due to change in the constitution of the bank or the Tenderer.

.....  
(Signature of the authorised officer of the Bank)

.....  
Name and designation of the officer  
.....

Seal, name & address of the Bank and address of the Branch

\*\*\*\*\*

**Form - 4**

**BANK GUARANTEE FORM FOR PERFORMANCE SECURITY/BALANCE 10% PAYMENT**

The President of India  
Acting through Commissioner  
Directorate of Logistics, Customs & Central Excise  
4<sup>th</sup> Floor, Lok Nayak Bhawan  
Khan Market, New Delhi - 110 511.

WHEREAS ..... (name and address of the Supplier) (hereinafter called "the Supplier") has undertaken, in pursuance of contract no..... dated ..... to supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the Supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognised by you for the sum specified therein as security for compliance with its obligations in accordance with and due performance of the contract;

AND WHEREAS we have agreed to give the Supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the Supplier, up to a total of ..... (amount of the guarantee in words and figures), and we hereby irrevocably and absolutely undertake to pay you immediately, upon your first written demand declaring the Supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed thereunder or of any of the contract documents which may be made between you and the Supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

The Bank guarantee shall be interpreted in accordance with the laws of India.

The Guarantor Bank represents that this Bank Guarantee has been established in such form and with such content that is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

The Bank Guarantee shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the Guarantor Bank or the Supplier.

The Bank further undertakes not to revoke this Guarantee during its currency except with the previous express consent of the Purchaser in writing.

The Bank declares that it has power to issue this Guarantee and discharge the obligations contemplated herein, the undersigned is duly authorized and has full power to execute this Guarantee for an on behalf of the Bank.

This guarantee shall be valid upto and including the ..... day of ....., 20.....

.....  
(Signature with date of the authorised officer of the Bank)

.....  
Name and designation of the officer

.....  
Seal, name & address of the Bank and address of the Branch  
\*\*\*\*\*

**Form - 5**  
**CONTRACT FORM**

CONTRACT FOR SUPPLY, INSTALLATION AND COMMISSIONING OF  
\_\_\_ EQUIPMENT/INSTRUMENTS

Contract No. \_\_\_\_\_ dated \_\_\_\_\_

This contract for \_\_\_\_\_ is made on this \_\_\_ day of \_\_\_ 20\_\_ between \_\_\_\_\_ [hereinafter referred to as "Supplier"] on the one part and the President of India acting through the Commissioner, Directorate of Logistics, Central Board of Excise & Customs, Department of Revenue, Ministry of Finance, Government of India, 4<sup>th</sup> Floor, Lok Nayak Bhawan, Khan Market, New Delhi - 110511 (hereafter referred to as the "Purchaser" which shall include his successors in the office and assigns) on the other part.

2. Whereas the Purchaser had floated a Tender NIT \_\_\_\_\_ dated \_\_\_\_\_ and the Supplier had submitted a tender in response and has been awarded the contract vide Notification of award F.No. \_\_\_\_\_ dated \_\_\_\_\_, it is hereby, agreed that the Supplier will supply, install, commission \_\_\_ Equipment / Instruments as per NIT \_\_\_\_\_ dated \_\_\_\_\_ on turn key basis and maintain it during the \_\_\_ years warranty period and will also maintain for a period of five years under a Comprehensive Annual Maintenance Contract after completion of the warranty period and also provide product support for at least fifteen years from the date of expiry of the warranty period on the terms and conditions mentioned hereunder and for a price indicated in para 5 of this contract which the Purchaser will pay as per the terms of payment indicated in para 17 of this contract.

3. The following documents shall be deemed to form and be read and construed as part of this contract:

- (i) Purchaser's Tender Enquiry Document No. \_\_\_ dated \_\_\_\_\_.
- (ii) Tenderer's Technical bid dated \_\_\_\_\_
- (iii) Price bid of the Tenderer
- (iv) General Instructions of the Contract, General Conditions of Contract, Schedule of Requirements, Technical Specifications, Quality Control Requirements, Qualification Criteria as mentioned in NIT No. \_\_\_ dated \_\_\_\_\_.
- (v) Manufacturers' Authorisation Form furnished by the Tenderer in its tender
- (vi) Purchaser's Notification of Award F.No. \_\_\_\_\_ dated \_\_\_\_\_.
- (vii) Clarification issued by the Purchaser and replies/queries submitted by the Tenderer during pre-bid or during evaluation of bids.

Note: The words and expressions used in this contract shall have the same meanings as are respectively assigned to them in the conditions of contract referred to above. Further, the definitions and abbreviations incorporated under clause 2.2 & 2.3 of Section II - 'General Instructions to Tenderers' of the Purchaser's Tender Enquiry Document shall also apply to this contract.

4. In addition to above documents, following shall also be deemed to form and be read and construed as part of this contract:

- a) Supplier's letter No. \_\_\_\_\_ dated \_\_\_\_\_
- b) Purchaser's letter F.No. \_\_\_ dated \_\_\_\_\_
- c) -----

(Reference of all correspondence made with the Supplier with respect to this procurement)

5. Brief particulars of the goods and services

Brief particulars of the goods and services which shall be supplied by the Supplier are as under:

Brief description of goods / services	Quantity to be supplied	Unit Price	Total price	Terms of delivery

However during the period of contract for delivery of \_\_\_ Equipment/Instruments, in case the Supplier delivers the Equipment/Instruments of identical specifications at a less price to any other party (price being the sole consideration in the supply), the contract price will be deemed to have been reduced by the difference between the price offered to the Purchaser and to the other party. Any difference in the terms of supply shall be duly accounted in the process.

6. Centralised Comprehensive Annual Maintenance Contract (CCAMC)

Centralised Comprehensive Annual Maintenance Contract charges for the period of 5 years after the warranty period of 24 months from the date of commissioning of Equipment/Instruments will be payable as under:

Particulars	CCAMC charges (including taxes) per HEXS						Qty.	Total
	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year	Total		
Equipment/ Instruments								
Grand Total								

There shall be a separate contract for maintenance of the Equipment/Instruments for the post warranty period. The post warranty maintenance are outlined in Section IV of NIT No.01(AS)/2017 dated 31.03.2017, which will form the basis of CCAMC.

7. Product Support

The Supplier shall provide product support for 15 years from the date of expiry of warranty period and would be governed by the clause 4.8 of Section-IV of NIT No.01(AS)/2017 dated 31.03.2017.

8. Delivery schedule

Commissioning / handing over of \_\_\_ Equipment/Instruments shall be completed within \_\_\_ months from the date of Letter of award of the Contract and would be governed as per clause 4.2 of Section-IV of NIT No.01(AS)/2017 dated 31.03.2017 and pre-bid clarification issued thereafter on \_\_\_ (if any).

9. Performance Security

The Supplier will furnish Performance Security within 21 days after the issue of Notification of award by the Purchaser as per clause 3.5 of Section-III of NIT 01(AS)/2017 dated 31.03.2017.

10. Technical Specification

Technical specification of the \_\_\_ Equipment/Instruments shall be as per Section V of the NIT \_\_\_ dated \_\_\_ and pre-bid clarifications issued thereafter on \_\_\_ (if any).

11. Transportation and Insurance

Transportation and Insurance of the Equipment/Instruments shall be as per clause 3.10 & 3.11 of Section-III of NIT No.01(AS)/2017 dated 31.03.2017.

12. Quality Control

The quality control, inspection, tests and trials shall be carried out as per terms & conditions mentioned in section VI of NIT No.01(AS)/2017 dated 31.03.2017.

13. AERB Approval

NOC/Type approval certificate from AERB, wherever applicable, shall be submitted by the Supplier for the model offered of Equipment/ Instruments.

#### 14. Installation & Commissioning

Installation & Commissioning of the Equipment/Instruments will be carried out as per clause 6.2 and 6.3 of Section VI of NIT No.01(AS)/2017 dated 31.03.2017.

#### 15. Warranty

The 2 years warranty of Equipment/Instruments shall be as per clause 3.14 of Section-III and clause 4.10 & 4.11 of Section-IV of NIT No.01(AS)/2017 dated 31.03.2017.

#### 16. Availability of AMC Service Providers/Agencies

There should be an extensive services network spread over geographical locations including major cities near the site of installation to attend to any performance related complaint on Equipment/ Instruments.

#### 17. Payment Terms

The term and mode of payment, as provided in clause 2.14 of Section II of NIT No.01(AS)/2017 dated 31.03.2017 shall be as under:

S. No.	Stage	Payment	Documents to be submitted
1	On Installation of equipment/ instrument	80% of the Basic cost of the equipment/ instrument	1. Supplier's commercial invoice in duplicate. 2. Installation certificate issued by the user Laboratory (as per Section IX).
2	On payment of Taxes & Duties	100% Taxes and Duties	Document showing proof of payment of taxes & duties on equipment/ instrument, duly attested by the appropriate authority.
3	On commissioning of equipment/ instrument	Balance 20% of the Basic cost of the equipment/ instrument + other charges, if any	1. Supplier's commercial invoice in duplicate. 2. Delivery & Acceptance Certificate as per Section IX. 3. Bank Guarantee equivalent to balance 20% of amount in the Proforma given in Section IX.

Note: Basic cost of the machine will include cost of Equipment/Instruments, Commissioning & Installation, Insurance, Freight, if any, and Cost for any other value addition.

The payment shall be made in \_\_\_\_\_. The Supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, as specified. While claiming payment, the Supplier shall certify on the bill that the payment being claimed is strictly in terms of the contract and all the obligations on the part of the Supplier for claiming that payment have been fulfilled as required under the contract. While claiming reimbursement of duties, taxes etc. (like sales tax, excise duty, custom duty) from the Purchaser, as and if permitted under the contract, the Supplier shall also certify that, in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the Supplier) shall refund to the Purchaser, the Purchaser's share out of such refund received by the Supplier. The Supplier shall also refund the applicable amount to the Purchaser immediately on receiving the same from the concerned authorities. The Bank Guarantee submitted against release of balance 20% payment shall remain valid till 90 days after the expiry of warranty period. In case the machine is not attended to in respect to any defect developing during the warranty period and made functional, 10% Performance security deposit and Bank Guarantee submitted against the release of 20% balance payment shall be forfeited.

#### 18. Paying Authority

The Director, CRCL shall be the paying authority for the procurement of equipments for CRCL, New Delhi and the Custom House Laboratories situated at Mumbai, Kolkatta, Chennai, Kandla, Kochi and Vizag. For the Government Opium and Alkaloid Works at Ghazipur and Neemuch the paying authority shall be Chief Controller, Government Opium and Alkaloid Works and for the Place of installation at Bhutan the Commissioner, Directorate of Logistics, New Delhi shall be the paying authority for any

payment due to the supplier under this contract except in the case of CCAMC charges payable in respect of Bhutan Laboratory where the paying authority shall be the Royal Government of Bhutan.

19. Liquidated Damages

If the Supplier fails to complete the installation and commissioning of the equipment within the time fixed under the contract, the Purchaser shall deduct Liquidated Damages as per clause 3.19 of Section III of NIT No.01(AS)/2017 dated 31.03.2017.

20. Termination of Contract

The Contract can be terminated in accordance with clauses 3.20, 3.21, 3.23 of Section III of NIT No.01(AS)/2017 dated 31.03.2017.

21. Resolution of Disputes

In the event of any dispute or difference arise between the Purchaser and Supplier in connection with or relating to the contract, the parties shall resolve their disputes or differences as per clause 3.26 & 3.27 of Section III of NIT No.01(AS)/2017 dated 31.03.2017.

22. Indemnity

The Supplier shall, at all times, indemnify and keep indemnified the Purchaser, free of cost, against all claims which may arise in respect of goods & services to be provided by the Supplier under the contract as per clause 3.3 and 3.28.5 of Section III of NIT No.01(AS)/2017 dated 31.03.2017.

23. Training

The training of the staff shall be carried out as laid down in clause 4.13 of Section IV of NIT No.01(AS)/2017 dated 31.03.2017.

24. Modification of Contract

If necessary, the Purchaser may, by a written order given to the Supplier at any time during the currency of the contract, amend this contract as laid out in clause 3.17 of Section III of NIT No.01(AS)/2017 dated 31.03.2017.

25. Performance Guarantee

The supplier will be required to furnish a Performance Guarantee by way of Bank Guarantee within 30 days of signing of contract through a public sector bank for a sum of Rs. i.e. equal to 50% of the total annual maintenance contract value for first year renewable every year. Performance Bank Guarantee should be valid upto 60 days beyond the end date of contract.

26. Miscellaneous

Other issues, not mentioned in the contract, shall be governed as per the NIT No.01(AS)/2017 dated 31.03.2017 and documents mentioned in paragraph 3 & 4 above.

Received and accepted this contract.

( \_\_\_\_\_ )  
M/s \_\_\_\_\_

(Sign & Stamp of Supplier)

Date: \_\_\_\_\_  
Place: \_\_\_\_\_

WITNESSES:

( \_\_\_\_\_ )  
Directorate of Logistics  
Customs & Central Excise  
For and on behalf of the  
President of India

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**Form - 6**

**BANK GUARANTEE PROFORMA FOR ADVANCE PAYMENT FOR CCAMC CHARGES**

**(On Non-judicial stamp paper of an appropriate value)**

To

The President of India  
Acting through the Commissioner,  
Directorate of Logistics, Customs & Central Excise,  
Ministry of Finance, Department of Revenue,  
4<sup>th</sup> Floor, 'A' Wing, Lok Nayak Bhawan, Khan Market,  
New Delhi 110 511.

Dear Sir,

We \_\_\_\_\_ (name & address of bank) hereby refer to the Centralised Comprehensive Annual Maintenance Contract (hereinafter referred to as **CCAMC**) dated \_\_\_\_\_ between the Commissioner, Directorate of Logistics, Customs & Central Excise, Ministry of Finance, Government of India, 4<sup>th</sup> Floor, Lok Nayak Bhawan, Khan Market, New Delhi 110 511, (hereinafter referred to as **"the Directorate"**) in terms of the tender No. \_\_\_\_\_ and \_\_\_\_\_ (hereinafter referred to as **"the Contractor"**) providing in substance for the comprehensive annual maintenance of \_\_\_\_\_ Equipment/Instruments – as particularized in the said CCAMC. Under the terms of the said CCAMC, the Contractor is required to furnish a bank guarantee for an amount not less than the advance amount extended to him, which shall remain valid till 3 months after closure of the CCAMC period.

In view of the foregoing and pursuant to the terms of the said CCAMC, which is referred to and made a part thereof as full and to the same extent as if copied at length herein, we hereby irrevocably absolutely and unconditionally guarantee to the Directorate, due performance of all the terms and conditions of the CCAMC to the extent of Rs. \_\_\_\_\_.

This guarantee shall be construed as an irrevocable, absolute, unconditional and direct guarantee of the performance of the CCAMC without regard to the validity, regularity or enforceability of any obligation of the parties to the CCAMC.

The Directorate shall be entitled to enforce this guarantee without being obliged to resort initially to any other security or to any other remedy to enforce any of the obligations herein guaranteed and may pursue any or all of its remedies at one or at different times. Upon default of the CCAMC, we agree to pay to the Directorate on demand and without any demur the sum of Rs. \_\_\_\_\_ or any part thereof, immediately upon presentation of a written statement by the Directorate that the amount of said demand is due from the Contractor to the Directorate by virtue of breach of performance by the Contractor under the terms of the aforesaid CCAMC. Notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal relating thereto, liability under this present guarantee is absolute and unequivocal.

The determination of the amount due under the guarantee shall be in the sole discretion of the Directorate whose decision shall be conclusive and binding on us as guarantor.

It is mutually agreed that the Directorate shall have the fullest liberty without affecting in any manner our obligation hereunder with or without our consent to vary any of the terms of the said CCAMC or to extend the time for performance by the Contractor, from time to time any of the powers exercisable by the Directorate against the Contractor and either to forebear or enforce any of the terms and conditions relating to the said CCAMC and we shall not be relieved from our liability by reasons of any variation or any extension being granted to the Contractor or for any forbearance, act or omission on the part of the Directorate or any indulgence by the Directorate to the Contractor or by any such matter or thing whatsoever which under the law relating to the sureties would but for this provision have effect of so relieving our obligation.

This guarantee is confirmed and irrevocable and shall remain in effect until \_\_\_\_\_ and such extended periods, which may be mutually agreed to. We hereby expressly waive notice of any said extension of the time for performance and alteration or change in any of the terms and conditions of the said Centralised Comprehensive Annual Maintenance Contract. This guarantee will not be discharged due to change in constitution of the Bank or the Contractor.

We \_\_\_\_\_ (Name of the Bank) undertake not to revoke this guarantee during its currency without written consent of the authority.

This guarantee will not be discharged due to change in the constitution of the Bank or the supplier.

Very truly yours,

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-----  
(Name, Seal & Authorised Signature of the Bank and date)

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**Form-7**  
**MODEL CERTIFICATE OF INSTALLATION**

F.No. \_\_\_\_\_

Dated \_\_\_\_\_

1. Reference Contract No. \_\_\_\_\_ date \_\_\_\_\_

2. It is certified that

- a) M/s \_\_\_\_\_ have delivered the system on \_\_\_\_\_ (date) and completed Installation and Site Acceptance Test of EQUIPMENT / INSTRUMENTS Model \_\_\_\_\_ Serial No. \_\_\_\_\_ to the satisfaction of the Purchaser and user Commissionerate at the designated site \_\_\_\_\_ (name of the site) on \_\_\_\_\_ (date).
- b) Records of SAT is annexed to this Certificate.
- c) Software in USB/CD media, Instruction Manual & Technical Manual etc. have been taken over (all documents required to be delivered at the time of SAT) and the same are listed in the Annexure enclosed.

For Contractor

For Purchaser

Witness:

Witness:

Signature  
Name  
Designation  
Address  
Date

Signature  
Name  
Designation  
Address  
Date

\*\*\*\*\*

**FORM - 8**  
**MODEL CERTIFICATE OF DELIVERY AND ACCEPTANCE**

F.No. \_\_\_\_\_

Dated \_\_\_\_\_

1. Reference Contract No. \_\_\_\_\_ date

2. It is certified that

- (a) M/s \_\_\_\_\_ have completed the delivery of the EQUIPMENT / INSTRUMENTS Model \_\_\_\_\_ Serial No. \_\_\_\_\_ on \_\_\_\_\_ (date) at designated site \_\_\_\_\_ (name of the site).
- b) The process of handing / taking over of the aforesaid system, accessories and services specified in the Contract to the satisfaction of the Purchaser, has been completed on \_\_\_\_\_ (date).
- c) The aforementioned EQUIPMENT / INSTRUMENTS worked satisfactorily during the trial period of 15 days starting w.e.f. \_\_\_\_\_ (date) to \_\_\_\_\_ (date).

For Contractor

For Purchaser

Witness:

Witness:

Signature  
Name  
Designation  
Address  
Date

Signature  
Name  
Designation  
Address  
Date

\*\*\*\*\*

**Form - 9**

**CLAIM OF PAYMENT BY THE SUPPLIER**

*(To be typed and printed on the Supplier's official letterhead)*

Date.....

The Commissioner  
Directorate of Logistics  
4<sup>th</sup> Floor, 'A' Wing, Lok Nayak Bhavan  
Khan Market  
New Delhi - 110051

Sir/ Madam,

We claim the following amounts as per contract ..... entered into pursuant to NIT ..... and have enclosed necessary billing documents.

S. No.	Stage	Amount and currency	Payment	Billing documents enclosed

2. We certify that:

- a) the above payments are claimed strictly in terms of the contract and all our obligations under the contract for claiming them have been fulfilled;
- b) of such taxes and duties claimed, if we get any refund from the tax authorities we will refund the same to you.

Yours sincerely,

(.....)

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**Form - 10**

**INFORMATION IN RESPECT OF PREVIOUS SUPPLIES BY BIDDER**

**Part-I: Summary**

Year/Month	No of Equipment/ Instruments	Clients

**Part-II: Details of each Supply mentioned in Part- I**

1.0	Brief description of equipment/ instrument supplied	
2.0	Location where installation done	
	<ul style="list-style-type: none"><li>• Country</li><li>• Town(s)</li></ul>	
3.0	Address of the client	
	<ul style="list-style-type: none"><li>• Contact Address</li><li>• Physical Address</li><li>• Tel Nos., Fax Nos. &amp; E-mail ID</li></ul>	
4.0	Client's key contact person(s)	
	<ul style="list-style-type: none"><li>• Name(s)</li><li>• Designation</li><li>• Telephone &amp; E-mail ID</li></ul>	
5.0	Project schedule	
	<ul style="list-style-type: none"><li>• Commencement date</li><li>• Completion date</li><li>• Reasons for delay, if any</li></ul>	
6.0	Project cost	
7.0	Third party firm(s) involved with project	
	<ul style="list-style-type: none"><li>• Name(s)</li><li>• Roles and responsibility of the firm</li><li>• Contact Address</li><li>• Physical Address</li><li>• Tel Nos., Fax Nos. &amp; E-mail ID</li></ul>	
8.0	Scope of supply/service (equipment, site works, maintenance - comprehensive or otherwise, software upgrades, long-term warranty, etc.)	
9.0	Attach performance certificate from the existing users in India	
10.0	State any challenges or problems experienced by yourselves during project implementation or do you have any suggestion to make	

**Form - 11**  
**PRE - CONTRACT INTEGRITY PACT**

**GENERAL**

The pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on day of the month of \_\_\_\_\_ 2017, between, on one hand, the President of India acting through Dr./Shri/Smt. \_\_\_\_\_, Commissioner, Directorate of Logistics, Department of Revenue, Ministry of Finance, Government of India (hereinafter called the "Purchaser", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s \_\_\_\_\_ represented by Dr./Shri/Smt. \_\_\_\_\_ (Designation) (hereinafter called the "Tenderer" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the Purchaser proposes to procure \_\_\_\_\_ units of Equipment/ Instruments (to be named later) and the Tenderer is willing to offer/has offered the stores, and,

WHEREAS the Tenderer is a private company/public company/Government undertaking/partnership/registered import-export agency, constituted in accordance with the relevant law in the matter and the Purchaser is a Ministry/Department of the Government of India, performing its functions on behalf of the President of India,

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:

Enabling the Purchaser to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling Tenderers to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the Purchaser will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

**1. Commitments of Purchaser**

1.1 The Purchaser undertakes that no official of the Purchaser, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the Tenderer, either for themselves or for any person, organisation or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

1.2 The Purchaser will, during the pre-contract stage, treat all Tenderers alike, and will provide to all Tenderers the same information and will not provide any such information to any particular Tenderer which could afford an advantage to that particular Tenderer in comparison to other Tenderers.

1.3 All the officials of the Purchaser will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2. In case any such preceding misconduct on the part of such official(s) is reported by the Tender to the Purchaser with full and verifiable facts and the same is prima facie found to be correct by the Purchaser, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the Purchaser and such a person shall be debarred from further dealing related to the contract process. In such a case while an enquiry is being conducted by the Purchaser the proceedings under the contract would not be stalled.

### **3. Commitments of Tenderers**

3.1 The Tenderer commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-

3.2 The Tenderer will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Purchaser, connected directly or indirectly with the bidding process, or to any person, organisation or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

3.3 The Tenderer further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Purchaser or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Government.

3.4 Foreign Tenderers shall disclose the name and address of agents and representatives and Indian Tenderers shall disclose their foreign principals or associates.

3.5 Tenderers shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/ contract.

3.6 Tenderer further confirms and declares to the Purchaser that the Purchaser is the original manufacturer/integrator/authorised government sponsored export entity of the defence stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the Purchaser or any of its functionaries, whether officially or unofficially to the award of the contract to the Tenderer, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

3.7 The Tenderer, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the Purchaser or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.



3.8 The Tenderer will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

3.9 The Tenderer will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.10 The Tenderer shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the Purchaser as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The Tenderer also undertakes to exercise due and adequate care lest any such information is divulged.

3.11 The Tenderer commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

3.12 The Tenderer shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.13 If the Tenderer or any employee of the Tenderer or any person acting on behalf of the Tenderer, either directly or indirectly, is a relative of any of the officers of the Purchaser, or alternatively, if any relative of an officer of the Purchaser has financial interest/stake in the Tenderer's firm, the same shall be disclosed by the Tenderer at the time of filling of tender. The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.

3.14 The Tenderer shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the Purchaser.

#### **4. Previous Transgression**

4.1 The Tenderer declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify Tenderer's exclusion from the tender process.

4.2 The Tenderer agrees that if it makes incorrect statement on this subject, Tenderer can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

#### **5. Earnest Money (Security Deposit)**

5.1 While submitting the bid, the Tenderer shall deposit an amount, as specified in Table-I, Section-I, as Earnest Money/Security Deposit, with the Purchaser in the form of Bank Guarantee as per proforma given in tender document.

5.2 The Earnest Money/Security Deposit shall be valid up to a period of 45 days beyond the validity period of the tender.

5.3 In case of the successful Tenderer, a clause would also be incorporated in the Article pertaining to Performance Bond in the Purchase Contract that the provisions of Sanctions for Violation shall be applicable for forfeiture of Performance Bond in case of a decision by the Purchaser to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

5.4 No interest shall be payable by the Purchaser to the Tenderer on Earnest Money/Security Deposit for the period of its currency.

**6. Sanctions for Violations**

6.1 Any breach of the aforesaid provisions by the Tenderer or any one employed by it or acting on its behalf (whether with or without the knowledge of the Tenderer) shall entitle the Purchaser to take all or any one of the following actions, wherever required:-

- I. To immediately call of the pre contract negotiations without assigning any reason or giving any compensation to the Tenderer. However, the proceedings with the other Tenderer(s) would continue.
- II. The Earnest Money Deposit (in pre-contract stage) and /or Security Deposit/Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the Purchaser and Purchaser shall not be required to assign any reason therefore.
- III. To immediately cancel the contract, if already signed, without giving any compensation to the Tenderer.
- IV. To recover all sums already paid by the Purchaser, and in case of an Indian Tenderer with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a Tenderer from a country other than India with interest thereon at 2% higher than the LIBOR (Landon Inter Bank Official Exchange Rate). If any outstanding payment is due to the Tenderer from the Purchaser in connection with any other contract for any other stores, such outstanding payment could also be utilised to recover the aforesaid sum and interest.
- V. To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the Tenderer, in order to recover the payments, already made by the Purchaser, along with interest.
- VI. To cancel all or any other Contracts with the Tenderer. The Tenderer shall be liable to pay compensation for any loss or damage to the Purchaser resulting from such cancellation/rescission and the Purchaser shall be entitled to deduct the amount so payable from the money (s) due to the Tenderer.
- VII. To debar the Tenderer from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the Purchaser.
- VIII. To recover all sums paid in violation of this Pact by Tenderer(s) to any middleman or agent or broker with a view to securing the contract.
- IX. In cases where irrevocable Letters of credit have been received in respect of any contract signed by the Purchaser with the Tenderer, the same shall not be opened.
- X. Forfeiture of Performance Bond in case of a decision by the Purchaser to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.2 The Purchaser will be entitled to take all or any of the actions mentioned at para 6.1 (i) to (x) of this Pact also on the Commission by the Tenderer or any one employed by it or acting on its behalf (whether with or without the knowledge of the Tenderer), of an offence as defined

in Chapter IX of the Indian Penal Code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

6.3 The decision of the Purchaser to the effect that a breach of the provisions of this Pact has been committed by the Tenderer shall be final and conclusive on the Tenderer. However, the Tenderer can approach the Independent Monitor(s) appointed for the purpose of this Pact.

## **7. Fall Clause**

7.1 The Tenderer undertakes that it has not supplied/is not supplying similar product/systems or sub systems at a price lower than that offered in the present bid in respect of any other Ministry/department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the Tenderer to any Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the Tenderer to the Purchaser, if the contract has already been concluded.

## **8. Independent Monitors**

8.1 The Purchaser has appointed Shri Samirendra Chatterjee, IAS (Retd.), Address - 71, Vikramshila Apartment, IIT Delhi Campus, Hauz Khas, New Delhi-110016, Mobile No. 9911158262 as Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission).

8.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

8.3 The monitor shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

8.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.

8.5 As soon as the Monitor notices, or has reason to believe, a violation of this pact, he will so inform the Authority designated by the Purchaser.

8.6 The Tenderer(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Purchaser including that provided by the Tenderer. The Tenderer will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the Tenderer/Subcontractor(s) with confidentiality.

8.7 The Purchaser will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.

8.8 The Monitor will submit a written report to the designated Authority of Purchaser/ Secretary in the Department within 8 to 10 weeks from the date of reference or intimation to him by the Purchaser/Tenderer and, should the occasion arise, submit proposals for correcting problematic situations.

## **9. Facilitation of Investigation**

In case of any allegation of violation of any provisions of this Pact or payment of commission, the Purchaser or its agencies shall be entitled to examine all the documents including the

Books of Accounts of the Tenderer and the Tenderer shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

**10. Law and Place of jurisdiction**

The Pact is subject to Indian law. The place of performance and jurisdiction is the seat of the Purchaser.

**11. Other Legal Actions**

The actions stipulated in this Integrity pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extent law in force relating to any civil or criminal proceedings.

**12. Validity**

12.1 The validity of this Integrity Pact shall be from date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both Purchaser and the Tenderer, including warranty period, whichever is later. In case Tenderer is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

12.2 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

13. The parties hereby sign this Integrity Pact at \_\_\_\_\_ on \_\_\_\_\_

Purchaser  
Name of the Officer  
Designation  
  
Deptt./Ministry

Tenderer  
Designation of person signing  
on behalf of Company

Witness:

Witness:

1. \_\_\_\_\_

1. \_\_\_\_\_

## **INSTRUCTIONS FOR ONLINE BID SUBMISSION**

As per the directives of Department of Expenditure, this tender document has been published on the Central Public Procurement Portal (URL: <http://eprocure.gov.in>). The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

### **REGISTRATION**

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “Click here to Enroll” on the CPP Portal is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC’s to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

### **SEARCHING FOR TENDER DOCUMENTS**

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

### **PREPARATION OF BIDS**

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black and white option.

- 3) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Space” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

### **SUBMISSION OF BIDS**

- 1) Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original EMD should be submitted at Directorate of Logistics, New Delhi by ..... at 13:00 hrs. The details of the EMD physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- 5) A standard price bid schedule format has been provided with the tender document to be filled by all the bidders. If the price bid file is found to be modified by the bidder, the bid will be rejected.
- 6) The serve time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 7) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.
- 8) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 9) Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 10) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

### **ASSISTANCE TO BIDDERS**

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 233 7315.

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## **ANNEXURE-I**

**Specifications of Equipment/ Instruments for CRCL & GOAW**

1. **SPECIFICATION FOR DOUBLE BEAM UV-VISIBLE SPECTROPHOTOMETER  
COMPLETE WITH PC CONTROLLED SYSTEM**

<b>Photometric System</b>	DOUBLE BEAM
<b>Light Source</b>	Deuterium & Tungsten Halogen Lamp with automatic switch over/Xenon flash lamp
<b>Detector</b>	Photo Multiplier Tube/Dual Silicon Photo Diode/suitable detector of latest technology
<b>Grating</b>	1050 lines/mm or better
<b>Spectral Bandwidth</b>	1.0 nm or better
<b>Wavelength Range</b>	190-1100 nm
<b>Wavelength Accuracy</b>	0.1 nm for entire range of wavelength or better
<b>Wavelength Repeatability</b>	0.1nm or better
<b>Photometric Range</b>	-3.0 to 3.0 Abs or better
<b>Photometric Accuracy</b>	0.005 A at 1.0 Abs
<b>Noise</b>	1.0A : $\leq 0.00050A$
<b>Stray Light</b>	<ul style="list-style-type: none"><li>• KCl 198 nm <math>\leq 1\%</math> T</li><li>• NaI 220 nm <math>\leq 0.05\%</math> T</li><li>• NaNO<sub>2</sub> 340 nm <math>&lt; 0.05\%</math> T</li></ul>
<b>Sample Compartment</b>	<ul style="list-style-type: none"><li>• At least four pairs of quartz cuvettes with standard 10mm with Peltier temp controller.</li><li>• The instrument should have automatic cell changer for multi sample analysis(min 6 sample changer)</li></ul>
<b>Software</b>	Original licensed window based user friendly software with multi-tasking facility.
<b>Data station</b>	Branded PC with i5,1TB HDD,19inch TFT monitor,2GB RAM and Laser printer should be supplied along with the instrument

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## 2. SPECIFICATION FOR FT-IR SPECTROPHOTOMETER

Fully Computer controlled Bench top FTIR system with universal sample compartment for working with all commercially available accessories.

1. **Optics/Beam splitter:** The system should have completely sealed and desiccated Interferometer with coated KBr beam splitter.
2. Wavelength range: 7500 to 375  $\text{cm}^{-1}$ .
3. Detector: DTGS detector or better.
4. Resolution: 0.5  $\text{cm}^{-1}$ .
5. S/N Ratio: > 45000:1 Peak to Peak, 4  $\text{cm}^{-1}$  for 1 minute scan or better.
6. Wavelength precision: 0.01 $\text{cm}^{-1}$ .
7. The instrument should indicate whether the source and laser are operational.
8. The system should be supplied with windows compatible operating software with standard features like Data Collection, Data Processing facilities. The software should also have Spectral search; Peak picking; Peak analysis tools; Automatic atmospheric suppression; SOP builder; Spectral interpretation tools; Quality checks programs, quick compare, quantification facility.
9. The system should have provisions to compensate the effect of atmospheric water and  $\text{CO}_2$  Interference in real time.
10. Humidity indicator should be part of the system to indicate humidity inside optics and to suggest the time to change the desiccant.
11. The instrument should have automatic validation with NIST Certified polystyrene film.
12. **Accessories:** *Diamond ATR* (for solids, liquids, films, paste, gel, LDPE/HDPE), variable width Liquid cell, Hydraulic Press of 15 ton for KBr pellet with pellet holder. Optional film maker for plastic samples.
13. **PC/Printer:** Branded PC with i7, 1TB HDD, 19 inch TFT monitor, 4GB RAM and color Laser printer should be supplied along with the instrument.
14. Suitable rating on-line sine wave UPS with isolation transformer with 1 hr. backup facility of reputed brand.
15. **Libraries:** Licensed version Library for Narcotics, Psychotropic substances and drugs of abuse, pharmacopeia library of IP, BP, USP, EP, JP.

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### 3. SPECIFICATIONS FOR GAS CHROMATOGRAPH SYSTEM

The GC system should have two injector ports with Programmable Pneumatic/pressure controls.

- The system should be able to connect the capillary columns of dia of 0.1µm to 0.53 µm and length up to 60 m.
- The instrument should have back flush facility.
- The GC data system should be based on Windows operating system for instrument control, data acquisition, data analysis, quantization with following specification.

#### I. Oven:

- 1) Temperature range : Ambient to 450<sup>0</sup>C
- 2) Oven temperature stability : 0.05<sup>0</sup>C
- 3) Temperature programmed : 15 ramps/16 plateau or better.
- 4) Heat up time : 50<sup>0</sup>C to 450<sup>0</sup>C in less than 5 min.
- 5) Cool down temperature : 450<sup>0</sup>C to 50<sup>0</sup>C in less than 5 min

#### II. Pneumatics:

- 1) Programmable Electronic control/EPC/AFC for all injectors, detectors as well as for auxiliary channels with single point control via software.
- 2) Automatic leak testing and column evaluation.

#### III. Injectors:

- 1) Split/ Split less Capillary Injector.
- 2) Automatic control of split vent and purge flows.

#### IV. Detector:

##### A) Flame Ionization Detector:

- 1) Temperature range: Ambient to 450<sup>0</sup>C in 1<sup>0</sup>C increments.
- 2) Dynamic range > 10<sup>6</sup> or better.
- 3) Flame out indicator.
- 4) Minimum Detection Limit (MDL): 1.5pg c/s or better.

##### B) ECD Detector :

- 1) MDL < 5fg/s for BHC/lindane
- 2) Dynamic range > 10<sup>4</sup> or better.

V. **Auto sampler:** with variable syringe size with provision for 100 vials 2 ml capacity.

The instrument must have provision to upgrade for head space attachment in future.

#### VI. Data system Software:

The software should be validated with single point control system of entire GC instrument and auto sampler. It should be able to acquire, process the data for qualitative & quantitative analysis. It should be GLP compliance.

#### VII. PC & Printer:

Branded PC with i7, windows software, 1TB HDD, 19 inch TFT monitor, 4GB RAM and Laser printer should be supplied along with the instrument.

#### VIII. Accessories and column:

- Capillary columns of 0.25µm i.d. x 30 & 60 metres length suitable for the analysis of Narcotics & psychotropic substances and drugs of abuse.
- Syringe of capacity of 5 µl and 10 µl: 4 Nos. in each.
- Sonicator with 5 lit capacity
- Gas cylinders with regulator for Nitrogen, Hydrogen and Zero-air and cylinder mounting brackets.
- Gas purification panel with moisture trap.
- Online sine wave 5kVA UPS with isolation transformer with 2 hr. backup facility of reputed brand.

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#### **4. SPECIFICATION FOR HPLC SYSTEM**

HPLC System with complete control of all components through computer for analysis of Narcotics & psychotropic substances/ Drugs of abuse. The system should have the following specification

##### **I. Solvent Delivery system:**

Quaternary Pump with on-line vacuum degasser should be able to deliver four solvents. Facility for dynamic gradient mixing and gradient operation in binary, ternary and quaternary modes.

1. Operating pressure : 0 to 6000 psi
2. Flow accuracy :  $\pm 1\%$  for entire flow range
3. Flow precision :  $\pm 0.075\%$  RSD for entire range of flow rate
4. Flow rate : 0.01 – 10.00 ml/min
5. No. of solvents : 1 to 4
6. Composition accuracy :  $\pm 0.5\%$
7. System delay volume :  $< 400\ \mu\text{l}$  or low
8. Programmable gradient profile with more than 5-types of gradient program.
9. On-line degasser for all channels.

##### **II. Auto Sampler**

- Controlled by Key board and software.
- Injection programmable from 0.1  $\mu\text{l}$  to 100  $\mu\text{l}$  to suit all applications.
- Precision  $< 0.5\%$  RSD
- 100 vials of 2ml capacity
- Carryover should be  $< 0.005\%$  or better

##### **III. Column oven**

- The instrument should be able to hold at least two columns upto 30cm length along with guard column.
- The temperature range should be ambient to 80°C.

##### **IV. Detectors: Diode Array Detector**

- Wavelength range : 190- 800 nm
- Wavelength Accuracy :  $\pm 1\text{nm}$
- Light source suitable for entire wavelength range
- Should have programmable slit width
- Digital resolution 1.2 nm or better
- Linear absorption range:  $\pm 2\text{AU}$  or more.
- Noise  $10^{-5}$  AU or lower
- Drift  $\leq 1 \times 10^{-4}$  AU/hr.
- Linearity  $< 5\%$  at 2 AU

##### **V. Software Computer System:**

Validated software with single point control of the entire HPLC system. Customizable data reports, online help wizards, report publisher, compatibility with diode array detector, RI, Fluorescence

detectors and facility for GPC data handling. It should be GLP compliance. Original software CD with licence should be provided.

#### **VI. PC & Printer:**

Branded PC with i7, windows software, 1TB HDD, 19 inch TFT monitor, 4GB RAM and Laser printer should be supplied along with the instrument

#### **VII. Spares & consumables**

- Solvent Filtration Kit (Aqueous and Organic) including vacuum pump, 1 litre Flask, Membrane filters etc.
- Two numbers each of Phenyl hexyl, C-18 & C-8 columns of 25cm x 4.6mm i.d. x 3.2 and 5  $\mu$ m particle size along with Guard columns of branded reputed manufacturer.
- Sample extraction kits (SPE) for drugs of abuse
- Online sine wave UPS of suitable capacity with isolation transformer with 2 hr. backup facility of reputed brand.

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## 5. SPECIFICATIONS FOR GAS CHROMATOGRAPH MASS SPECTROMETER (GCMS)

The **basic GC system** should have two injector ports with Programmable Pneumatic/pressure controls.

- It should be possible to connect the two Columns simultaneously to MS detector.
- The system should be able to connect the capillary columns of dia of 0.1 $\mu$ m to 0.53  $\mu$ m and length up to 60 m.
- The instrument should have back flush facility.
- The GC data system should be based on Windows operating system for instrument control, data acquisition, data analysis, quantization with following specification.

### I. Oven:

- 1) Temperature range : Ambient to 450<sup>0</sup>C
- 2) Oven temperature stability : 0.05<sup>0</sup>C
- 3) Temperature programmed : 15 ramps/16 plateau or better.
- 4) Heat up time : 50<sup>0</sup>C to 450<sup>0</sup>C in less than 5 min.
- 5) Cool down temperature : 450<sup>0</sup>C to 50<sup>0</sup>C in less than 5 min

### II. Pneumatics:

- 1) Programmable Electronic control/EPC/AFC for all injectors, detectors as well as for auxiliary channels with single point control via software.
- 2) Automatic leak testing and column evaluation.

### III. Injectors.

- 1) Split/ Split less Capillary Injector.
- 2) Automatic control of split vent and purge flows.

### IV. MS SPECIFICATION

MS system with ion source for EI and CI mode. It should have branded turbo molecular pump to maintain vacuum across the mass analyser area.

- Mass range of upto 1000 amu in 0.1 amu steps or better.
- Mass axis stability should be 0.10 amu for 24 hrs or better.
- Scan speed: 10,000 units per second or better.
- Ion source temperature up to 350<sup>0</sup>C for better sensitivity and programmable.
- Ion source: Dedicated EI and CI.
- Transfer line temperature up to 350<sup>0</sup>C.
- Ionization energy range 0 – 150 eV or better.
- EI Full scan sensitivity 1 pg OFN to produce signal to noise ratio 1500:1 for m/z 272.
- It should be possible to inject the samples directly into the mass spectrometer without passing through GC column for both EI & CI mode.
- Auto tuning provision.
- EI scan sensitivity and detection limit and other relevant parameters should be demonstrated at site.

**V. Auto sampler:** with variable syringe size with provision for 100 vials of 2 ml capacity.

### VI. Data system Software

The software should be validated with single point control of entire GC instrument and auto sampler. It should be able to acquire, process the data for qualitative & quantitative analysis. It should be GLP compliance.

## **VII. PC & Printer**

Branded PC with i7, 1TB HDD, 19 inch TFT Colour Monitor, 4GB RAM and Laser printer should be supplied along with the instrument

## **VIII. Accessories and column**

- Essential accessories such as liners, nuts and ferrules of different I.D., thermo green septa, glass wool, spare filament assembly etc. for five years smooth operation
- Capillary columns of 0.25µm id x 30 & 60 metres length suitable for the analysis of Narcotics & psychotropic substances /drugs of abuse and general chemicals.
- Syringe of capacity of 5 µl and 10 µl: 4 nos in each.
- Sonicator with 5 lit capacity
- Gas cylinders with regulator for Helium and cylinder mounting bracket.
- Gas purification panel for all gases & exhaust duct system.
- Online sine wave 10kVA UPS with isolation transformer with 2 hr. backup facility of reputed brand.

## **IX. Library**

NIST library for drugs of abuse/NDPS and general chemicals - latest version with licence to be supplied with the system.

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## **6. SPECIFICATIONS FOR LIQUID CHROMATOGRAPH MASS SPECTROMETER (LCMS)**

### **I. Solvent Delivery system:**

Quaternary gradient pump with following specifications.

1. Operating pressure : 0 to 15,000 psi or more
2. Flow accuracy :  $\pm 0.1\%$  for entire flow range
3. Flow precision :  $\pm 0.075\%$  RSD for entire range of flow rate
4. Flow rate : 0.01 – 2.0 ml/min
5. Composition accuracy :  $\pm 0.5\%$
6. Channel : minimum four
7. System delay volume :  $< 400\ \mu\text{l}$  or below
8. Programmable gradient profile with more than 5-types of gradient program.
9. On-line degasser facility should be available.

### **II. Auto Sampler**

- All operation should be controlled by software.
- Injection programmable from  $0.1\ \mu\text{l}$  to  $50\ \mu\text{l}$ .
- Precision  $< 0.5\%$  RSD
- 100 vials of 2ml capacity
- Carryover should be  $< 0.005\%$  or better

### **III. Column oven**

- The instrument should be able to hold standard columns along with guard column.
- The temperature range should be ambient to  $80\ ^\circ\text{C}$ .

### **IV. MS SPECIFICATION**

The Mass analyser system with ion source for ESI and APCI. It should have branded turbo molecular pump for vacuum system.

- Mass range of upto 2000 amu
- Mass resolution: 0.7 amu or better.
- Mass axis stability should be 0.10 amu for 24 hrs or better.
- Scan speed: 10,000 units per second or better.
- Ion source: Dedicated ESI and APCI with desolvation temperature more than  $400\ ^\circ\text{C}$
- Scan mode: Full scan, SIM, Reaction monitoring for confirmation of compounds by fragmentation of ions should be possible.
- Polarity switching : less than 100 millisecond
- ESI scan sensitivity (positive ion): 1pg of reserpine on column should give 100:1 signal to noise ratio or higher.
- The system should have provision to inject samples directly into MS without passing through the LC column.
- Scan sensitivity, detection limit and all above parameters should be demonstrated at site.

### **V. Data system Software**

The software should be validated with single point control system of entire LCMS instrument and auto sampler. The software should have the data base and library for analysis of drug for abuse, Narcotics and psychotropic substances. It should be able to acquire, process the data for qualitative & quantitative analysis. It should be GLP compliance. Original software CD with license to be provided.



## **VI. PC & Printer**

Branded PC with i7, windows software, 1TB HDD, 19 inch TFT monitor, 4GB RAM and colour Laser printer should be supplied along with the instrument.

## **VII. Accessories and column**

- Suitable branded Nitrogen gas generator with built-in compressor of capacity 32 lit/min or better.
- Standard columns of Phenyl hexyl, C-18 and C-8 and Normal silica column of sizes (2.1 mm id x less than 2  $\mu\text{m}$  x length 15 cm) two each and (2.1 mm id x 2, 3.5 & 5  $\mu\text{m}$  x length 15 cm) each with suitable guard columns suitable for the analysis of Narcotics & psychotropic substances.
- Sample extraction kits (SPE) for drugs of abuse
- Gas cylinders with regulator for suitable gases along with cylinder mounting brackets.
- Gas purification panel for all gases.
- Solvent Filtration Kit (Aqueous and Organic) including vacuum pump, 1lit Flask, Membrane filters etc.
- Online sine wave 10KVA UPS with isolation transformer with 2 hr. backup facility of reputed brand.

## **VIII. Library**

Standard library for drugs of abuse, Metabolite identification software for drugs of abuse and narcotics.

## **IX. Others:**

- The UHPLC, auto samplers and Mass spectrometer must be from single manufacturer.

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## **7. SPECIFICATIONS OF X-RAY DIFFRACTION SYSTEM**

X-Ray Diffraction system for analysis of inorganic compounds and mineral samples with necessary hardware and software.

### **X-ray Generator:**

- Maximum output power 3 KW,
- Stability :  $\pm 0.01\%$ .
- Safety key to enable and disable x-ray generation.
- Regulation features include: arc suppression, over voltage, over current and over power.
- Automated tube warm up, tube ramping.

### **X-Ray Tube:**

- Cu target, Long line focus with ceramic/glass insulation tube with K alpha beam.
- Anode voltage 20- 50KV or better,
- Tube current 20 - 50mA or better.

### **Goniometer:**

- $\theta - \theta$  type vertically mounted goniometer with minimum diameter 500mm
- 2 Theta range from 0 to 160 degrees or better.
- Both the Theta as well as 2Theta should be independently controlled through computer software.
- Angular reproducibility: 0.0002 or better
- Minimum step angle: 0.0001°

### **Optics:**

- Divergence slit, scattering slit and receiving slit (with anti-scatter slit) to measure the entire range as per the application requirement.
- Automatic alignment of X-Ray tube, Goniometer, Optics, Detector and sample stage.

### **Filter:**

- Ni K-beta filter for X-Ray tube.

### **Sample Stage:**

- Rotating sample stage with variable speed.
- Automated sample changer (Minimum 6 position) with spinner as option.

### **Sample holders:**

- Suitable sample holder for powder, film and liquid samples.
- Special holder for very small (micro quantity) samples

### **Detector:**

- High resolution dynamic scintillation detector of NaI and High speed Solid state detector (1D).

### **Chiller:**

- Suitable water chiller for cooling from reputed manufacturer to be supplied along with the instrument.

**Software:**

- Licensed version of Windows based software
- Measurement Software
- Instrument warm-up and control, Data collection
- Data smoothing
- Integrated intensity
- Background fitting
- Peak Search and Fitting
- Intensity ratio method for quantitative analysis
- Spike method for quantitative analysis
- Licensed version of ICDD / PDF database.

**PC & Printer**

Branded PC with i7, windows software, 1TB HDD, 19inch TFT monitor, 4GB RAM and color Laser printer should be supplied along with the instrument.

**Safety**

- Radiation protection as per the provisions of AERB of India and ANSI N43.2
- “Emergency Stop” button on cabinet integrated to mains power.
- Safety interlock to prevent operation if shutter is removed.
- Safety interlock to prevent operation of HV supply if X-ray Beacon is not present.
- Safety interlock to prevent opening of shutter if Shutter Beacon Bulb is not present.
- Safety circuit to protect x-ray tube from over heat, low water flow, x-ray tube arcing, with automatic shutdown of HV power supply.
- Fully interlocked cabinet door.

**Others:**

- Calibration standards have to be provided for calibration of angular position and intensity ratio.
- Suitable Online sine wave UPS with isolation transformer for both XRD & Chiller with 1 hr. backup facility from reputed manufacturer.

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## **8. SPECIFICATION FOR HPTLC-MS SYSTEM**

Integrated HPTLC system for identification, quantification and TLC-MS interface for direct mass analysis on TLC plate with following items:

- Automated TLC applicator,
- TLC Scanner
- TLC plate heater,
- TLC chamber
- Software, computer system, printer, UPS, nitrogen cylinder with regulator etc.

### **I. HPTLC SYSTEM MANAGER**

- Software to control, document and manage all the instrumental steps of HPTLC analysis including application, development, scanning.
- Communicates in both directions with connected instruments.
- 32 bit per analysis.
- Upgradable.
- For creating and storing methods.
- Single report per analysis. GLP compliant.

### **II. AUTOMATIC TLC SAMPLER**

- Fully automatic TLC Sample Applicator, System Manager control or standalone mode.
- Fully automatic application of samples as spots, bands or rectangles. By spray or contact application.
- Accepts 10, 25 or 100- $\mu$ L syringe. Minimum application volume 10 nL.
- Syringe cleaning automatic and programmable. Complete with instrument cover.
- Sample rack for more than 60 standard 2 mL vials and Link to System Manager.

### **III. CHROMATOGRAM DEVELOPMENT CHAMBERS (Two twin trough each size with SS lid)**

All glass, small internal volume chambers, bottom divided into two halves; maximum 5-15 ml mobile phase / run, S.S. leak - proof lid. Appropriate size chambers for 20 x 20, 20 x 10, 10 x 10 cm plates.

### **IV. TLC SCANNER WITH DATA EVALUTION**

- Computer controlled Scanner / Densitometer for automatic spectrum scanning for identity check as well as purity check;
- Automatic quantitative measurement by absorbance & fluorescence;
- All TLC / HPTLC plate sizes should be acceptable;
- Scan speed 100 mm / sec @ 25  $\mu$ m resolution;
- Wavelength range 190- 900 nm; Monochromator flushing by nitrogen; Data sampling rate – 4000 / sec;
- Special Optics for HPTLC measurements;
- Spectrum scan speed 100 nm / sec; Max 999 spectra / plate;
- Visible pilot slit image / scan compartment illumination with UV to check sample alignment with scan beam;

- D2, Hg, W lamps + self-diagnostic + Service dialog + Universal filter for fluorescence all built-in; scan slit size variable; bandwidth selectable 5 or 20nm;
- Plate should be easily placed inside scanner.
- Data evaluation 32 bit software (latest version), Improved S/N ratio. Improved reproducibility; Controlled by System Manager, Automatic / Manual integration, Auto baseline correction.
- Spot check facility. 3D display with data storage. Calibration - single level, multilevel, linear / non-linear. Statistics CV / CI. Reproducibility check facility.
- Auto calculation of data from weights and dil. factors, Computer generated random number for each report (GLP compliance).
- Lamp use tracking. 2 level digital user manual. Service Dialog + self-Diagnostics + Tutorial all built – in. Meets GLP. Optional IQ-OQ and 21 CFR Rule 11 certification.

## V. SOFTWARE FOR SCANNER

### a) Multi wavelength evaluation:

- Measures, stores and calculates automatically quantitative results from upto 30 wavelengths. Data stored & 3-D displayed in 3 ways. Colour plots of data.
- Automatic quantification with respect to  $\lambda$  max of separated fractions, in absorption & fluorescence mode.

### b) Spectrum Library:

- Facility to create own library. All files searched automatically for  $\lambda$  max as well as Rf.

## VI. TLC / HPTLC PLATE HEATER

Stain resistant ceramic glass top; temp range 25 to 200C. Digital display of set & actual temp. Display on as long as plate is hot. Upto 20 x 20 cm size plates.

## VII. TLC-MS interface for MS analysis direct from TLC plate

- It should enable extraction by elution of fractions from TLC plates after chromatography, into mass spectrometer off-line principle.
- Laser cross hairs for visual (manual) positioning is desirable. Max band length suitable for elution shall be around 4mm.
- Flow rate - 0.1ml / min to 1ml / min.
- It should be suitable for both glass and Al foil layers of TLC plates. It should have automatic piston movement and cleaning.
- 5 micron filter which does not allow particles to enter into the mass spectral probe is must.
- Option of manual positioning and valve switching should be available.
- It should be kept on-line with LC-MS but in by-pass mode for operation.

## VIII. Compatible Mass Spectrometer to be quoted with the following specification.

- Mass range: m/z upto 2000
- Suitable branded rotary pump to maintain vacuum for entire quadrupole area
- Dedicated Ion source: ESI and optional APCI
- Mass axis stability: +/- 0.1 amu for 12 hours
- Scanning speed: 10000 amu/sec
- Scan mode: full scan, SIM
- Resolution : unit mass or better
- Sensitivity: SIM mode ESI positive , 1pg reserpine S/N > 150 RMS
- Polarity switching: less than 25 msec

- Auto tuning: standard
- MS startup kit to be provided as standard
- Software: windows based to control the entire instrument. Quantitation should be possible. GLC compliant.
- **Library:** Licensed version of Standard library for drugs of abuse, Metabolite identification software for drugs of abuse and narcotics.

#### **IX. OTHERS:**

- Suitable Online sine wave UPS with isolation transformer with 1 hr. backup facility of reputed brand.
- Computer system from reputed company with latest version of i7, 1 TB HDD, 4 GB RAM, optical mouse with multifunctional key board, 19 inch TFT colour monitor and color laser jet printer.
- Two numbers each nitrogen cylinder with brass regulator for applicator.
- 1000 vials with cap and septa for applicator,
- pre-coated HPTLC glass plates, silica gel 60F 254 :-20x20, 10x10 cm each 4 pkts
- Twin trough chambers with SS lid for 20x20 and 10x10cm HPTLC plates: 2 Nos. each

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## **9. SPECIFICATION FOR ISOTOPIC RATIO MASS SPECTROMETER (IRMS)**

Isotopic ratio mass spectrometer is required for providing information about the geographic, chemical and biological origins of seized Narcotic drugs and Psychotropic substances.

### **I. Mass spectrometer:**

- Basic mass spectrometer must have Ion Source at 3,000 Volts accelerating potential for all masses from 2-70 amu or better.
- Construction and design of ion source and vacuum system must be such that memory is eliminated and should have Weld-free mono-block source housing, machined out of single piece of metal. The ion source and internal parts must have built in internal radiant heating of wetted surfaces.

### **II. Sensitivity:**

Sensitivity should be better than 1200 Molecules/Ion in CF Mode and Absolute Sensitivity must be better than 800 Molecules/Ion. This must be supported by documentation.

**III. Linearity:** Source Linearity must be better than 0.02%/nA over a voltage range of 0.6 V to 6 V. Measurement of specification must be possible under computer control from spec program. Source must be self-aligning and have a plug-in Design and should be easily replaced by User.

### **IV. Requirements:**

- The time between oil changes on the rotary pump should be three years
- COLLECTOR ARRAY should allow the measurement of CO<sub>2</sub>, N<sub>2</sub>, N<sub>2</sub>O, SO<sub>2</sub>, O<sub>2</sub>, CO, and in basic configuration. Vendor to provide full schematic showing cup positions, slit widths, and resistor values.
- It must be possible to vary the value of the high ohmic resistor on any amplifier from the software
- Mass resolution of >100
- Amplifiers must be in sealed and evacuated housing which is actively pumped, in order to reduce dark noise from ambient alpha radiation.

**V. Data System** for control of mass spectrometer, data acquisition, and data reduction. The instrument control software must have a library of routines which automate the measurement of sensitivity, linearity, abundance sensitivity, magnet stability and high voltage power supply stability.

The following items on the IRMS and the peripheral devices must be under computer control:

- Switching between two high ohmic resistors on the same amplifier diagnostic routines.

### **VI. CF-IRMS: CONTINUOUS FLOW IRMS EA-IRMS, INTERFACING, REFERENCING, DILUTION:**

- The interface Interfacing of Elemental Analyzer to IRMS must have automated sample dilution, automated addition of reference gases and must be possible to dilute Sample gases.
- It must be possible to choose the appropriate dilution for each analyte, so that different dilutions can be used for CO<sub>2</sub> and N<sub>2</sub> during a multi-isotope analysis.
- Interface must have capability for automated introduction of at five reference gases, to allow ready expansion of analytical capabilities to include S, O and H analysis.
- Software and hardware must permit automated Intensity matching of reference and sample peaks.

### **VII. GC-IRMS: isotope analysis of chromatographically resolved peaks (CSIA)**

- It must be possible to undertake fully automated high precision isotopic analysis of C, N, O, and Hat natural abundance from individual GC peaks.
- The GC must be a state of the art and commercially available capillary GC.
- IRMS software must allow control to upload GC methods, auto sampler & injector. It must

allow different GC methods for each vial in the auto sampler from the software in an automated sequence without manual intervention.

- The systems must support auto-dilution of individual compounds or ranges (e.g. CH<sub>4</sub> in natural gas).

**COMBUSTION** i) The GC combustion interface must contain a single high temperature combustion reactor for combustion of C to CO<sub>2</sub> and N to N<sub>2</sub> without hardware modifications. ii) It must be possible to attain Temp up to 1100 °C.

Precision SPECIFICATIONS (1) <sup>13</sup>C on column: <0.2‰,

## VIII. HIGH TEMPERATURE THERMOCHEMICAL DECOMPOSITION

- It must be possible to configure the GC interface for thermochemical decomposition of organic material unit to allow determination of D/H on individual GC peaks.
- The mass analyzer will be capable of resolving m/z=2 (1 H<sub>2</sub>) and 3 (DH) and m/z=3 (DH and 3He) and 4 (4He) δ<sup>13</sup>C, δ<sup>15</sup>N and δD Analysis i) It must be possible analyze δ<sup>13</sup>C, δ<sup>15</sup>N and δD within one sequence.
- It must be possible to automatically regenerate both reactors.

**SOFTWARE** i) It must be possible to display the trace of an optional FID or a MS detector together with either the trace of the calculated isotope ratio or the trace of the major beam. ii) Software must include automated routines for background correction as well as allow for fully user selectable background and rigorously verified routine for H<sub>3</sub><sup>+</sup> correction during measurement of H<sub>2</sub>.

## IX. ELEMENTAL ANALYSER

### CF-IRMS: isotopic and elemental analysis of bulk materials (BSIA)

- C and N analysis must be done in a single continuous flow analysis of a single combustion, by analysis of CO<sub>2</sub>, N<sub>2</sub> created by combustion of C to CO<sub>2</sub>, N to N<sub>2</sub>.
- The TCD output of CO<sub>2</sub> and N<sub>2</sub> sample size must be ready for the IRMS software and used to calculate and control the amount of dilution that is required in order to maintain CO<sub>2</sub> and N<sub>2</sub> sample sizes within pre-defined ranges.
- It must be possible to directly calculate isotope ratios for <sup>13</sup>C/<sup>12</sup>C and <sup>15</sup>N/<sup>14</sup>N, elemental ratios of C/N, and elemental composition of wt. % C and N.

Precision, <sup>13</sup>C and <sup>15</sup>N,

- **Normal samples Specification:** <0.15 for δ<sup>13</sup>C and δ<sup>15</sup>N from single analysis (>50 ug C and N) with precision of 1% or better for elemental analysis.
- The software should have a fail-safe mode that will stop the EA operation if the mass spectrometer source is not on.

**The Vendor should provide supporting documentation for all the specifications mentioned above.**

### X. Spares, PC and Printer:

- Suitable Online sine wave UPS with isolation transformer with 2 hr. backup facility of reputed brand.
- Branded PC with i7, windows software, 1TB HDD, 19 inch TFT monitor, 4GB RAM and color Laser printer should be supplied along with the instrument.

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## 10. SPECIFICATION FOR ICP-MASS SPECTROMETER

A bench top ICP-MS system is required for elemental analysis in a range of samples including trace metals in seized narcotic drugs and psychotropic substances/drug of abuse. The following modules need to be provided:

### ICP-MS

#### Sample Introduction System:

- The system should have single piece quartz injector torch with injector i.d. 2.5mm
- Nebulizer should be Quartz /PFA
- Spray chamber: Temperature controlled of cyclonic quartz with peltier cooling
- The sample Introduction system, torch & cones should be easily accessible.
- Peristaltic Pump Low pulsation, High precision with three separate channels for pressurised delivery of samples and internal standard (ISTD), plus sample spray chamber tray.

#### Ion Source and RF Plasma:

- The instrument must have software controlled 40/27MHz RF Generator operating from 500 to 1500 watts for automatic control of torch ignition, shutdown and system warm up.

#### Ion Extraction Interface:

- Standard orifice made of high purity Nickel sampling cone and skimming cones.
- The cones should be easily removable for cleaning and replacement.

#### Ion Focusing System:

- The ion focusing system should be capable of removing all neutrals & Photons from the ion path. It should have high ion transmission efficiency.
- It should be a maintenance free type. Collision and reaction cell to be protected from contamination by off-axis ion lens/cones.

#### Collision Cell Technology:

- System should be provided with a Cell technology to remove polyatomic & Isobaric Interferences.
- The system must have capability to use reactive gas/gases to chemically remove the interference by a scanning quadrupole and also use non-reactive gas/gases to collide with the interfering ions to remove them through KED. The Reaction cell System must work Low & High Mass cut off using the Quad scanner & allowing only a specific m/z ratio Ion to be ejected from the reaction cell.

#### Quadrupole:

- The Mass range should be from up to 260 amu or better to allow the analysis of radioactive elements & Actinides.
- The quadrupole mass filter should be stable and provide resolution of 0.5 amu or better.
- The Dwell time should be as short as 0.1 ms for fastest settling.
- Scan speed : 5000 amu/s or better

#### Abundance Sensitivity (Cs):

- Low mass range :  $5 \times 10^{-7}$
- High mass range  $1 \times 10^{-7}$

#### No gas mode Sensitivity (Kcps/ppm):

- Li (7) - 50 or better
- Co (59) - 100 or better
- U (238) - 300 or better
- Background ( 9 amu) is less than 1 cps

**Detection Limit (ppt):**

- Be (9) - <0.5
- In (115) - <0.1
- Bi (209) - <0.1

**Stability (% RSD):**

Short period < or = 2 and long term < or = 3

**Ion Detector:**

- The ion detector should be simultaneous discrete dynode electron
- Multiplier or equivalent and allow element concentration calibration over a full 9 order or more magnitude of dynamic range in a single scan using both analog and pulse ion counting mode.

**Software:**

Advanced user friendly Windows based software for data acquisition & processing, quantification and also isotope dilution calculation. Also should have capability to acquire high speed transaction signals of Laser ablation, LC interface etc.

**Accessories and Standards (ICP) to be provided**

- Installation and Operational kits for installation and demonstration.
- Auto sampler with minimum 100 vials capacity.
- Multi element Performance Certified Standards (23 element, 500ml).
- Argon Gas Cylinder – 4 Nos.,
- Nitrogen gas cylinder 1 No.,
- Hydrogen gas cylinder -1 no.,
- Helium gas cylinder (1 liter Ultra-pure helium ),
- Reaction gas cylinder suitable for system (Minimum two reactive gases 1 liter each along with suitable regulators.
- Gas purification panel for all gases.
- Suitable Fume Hood for the system.
- Consumables and spares for trouble free operation and performance for at least **05yrs**. List of spares and consumables to be mentioned clearly.
- Online sine wave 20KVA UPS with isolation transformer with 2 hr backup facility of reputed brand.

**PC & Printer**

Branded PC with i7, windows software, 1TB HDD, 19inch TFT monitor, 4GB RAM and color Laser printer should be supplied along with the instrument.

**Optional:**

- Microwave digestion system and Water Purification system from reputed manufacturer to be quoted separately.

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## **11. SPECIFICATIONS FOR LIQUID CHROMATOGRAPH MASS SPECTROMETER (LCMS/MS)**

### **I. Solvent Delivery system:**

Quaternary gradient pump with following specifications.

1. Operating pressure : 0 to 15,000 psi or more
2. Flow accuracy :  $\pm 0.1$  % for entire flow range
3. Flow precision :  $\pm 0.075$ % RSD for entire range of flow rate
4. Flow rate : 0.01 – 2.0 ml/min
5. Composition accuracy :  $\pm 0.5$ %
6. Channel : minimum four
7. System delay volume : < 400  $\mu$ l or below
8. Programmable gradient profile with more than 5-types of gradient program.
9. On-line degasser facility should be available.

### **II. Auto Sampler**

- All operation should be controlled by software.
- Injection programmable from 0.1  $\mu$ l to 50  $\mu$ l.
- Precision < 0.5 % RSD
- 100 vials of 2ml capacity
- Carryover should be < 0.005 % or better

### **III. Column oven**

- The instrument should be able to hold standard columns along with guard column.
- The temperature range should be ambient to 80 °C.

### **IV. MS SPECIFICATION**

Triple Quadruple MS system with ion source for ESI and APCI mode. It should have branded turbo molecular pump for vacuum system.

- Mass range of upto 2000 amu
- Mass resolution: 0.7 amu or better.
- Mass axis stability should be 0.10 amu for 24 hrs. or better.
- Scan speed 10,000 units per second or better.
- Dwell time should be 1 msec or less.
- Ion source: Dedicated ESI and APCI with desolvation temperature more than 400 °C. APPI (optional).
- Scan mode: Full scan, SIM, MRM/SRM should be possible.
- Polarity switching: less than 25 mill sec.
- No of MRM acquisition: 500MRM/sec or more.
- ESI scan sensitivity (positive ion): 1 pg/ul of reserpine on column should give 10,000:1 signal to noise ratio or higher for transition of ion at m/z 609.3 to ion at m/z 193.1 in MRM/SRM mode.
- ESI scan sensitivity (negative ion): 1 pg/ul of chloramphenicol on column should give 5000:1 signal to noise ratio or higher for transition of ion at m/z 321 to ion at m/z 152 in MRM/SRM mode.

- The system should have provision to inject liquid and solid samples directly into MS without passing through the column.
- Scan sensitivity, detection limit and all above parameters should be demonstrated at site.

#### **V. Data system Software**

The software should be validated with single point control system of entire LCMS/MS instrument and auto sampler. The software should have the MRM data base and library for analysis of drug for abuse, Narcotics and psychotropic substances. It should be able to acquire, process the data for qualitative & quantitative analysis. It should be GLP compliance. Original software CD with license to be provided.

#### **VI. PC & Printer**

Branded PC with i7, windows software, 1TB HDD, 19 inch TFT monitor, 4GB RAM and colour Laser printer should be supplied along with the instrument.

#### **VII. Accessories and column**

- Suitable branded Nitrogen gas generator with built-in compressor of capacity 32 lit/min or better.
- Standard columns of Pheny hexyl, C-18 and C-8 and Normal silica column of sizes (2.1 mm id x less than 2  $\mu$ m x length 15 cm) two each and (2.1 mm id x 2, 3.2, 5  $\mu$ m x length 15 cm) each with suitable guard columns suitable for the analysis of Narcotics & psychotropic substances.
- Sample extraction kits (SPE) for drugs of abuse
- Gas cylinders with regulator for suitable gases for collision cell along with cylinder mounting brackets.
- Gas purification panel all gases.
- Solvent Filtration Kit (Aqueous and Organic) including vacuum pump, 1 litre Flask, Membrane filters etc.
- Online sine wave 10KVA UPS with isolation transformer with 2 hr. backup facility of reputed brand.

#### **VIII. Library:**

Standard library for drugs of abuse, Metabolite identification software for drugs of abuse and narcotics.

#### **IX. OTHERS**

- The UHPLC, auto samplers and Mass spectrometer must be from single manufacturer.

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## 12. SPECIFICATIONS FOR NMR

Bench Top NMR for characterization of known & unknown compounds with following Specifications:

- NMR for  $^1\text{H}$  Proton ,  $^{19}\text{F}$  Fluorine and  $^{13}\text{C}$  Carbon:-
- Frequency: 60 MHz Proton or better
- Resolution: 50% line width < 1 Hz & 0.7Hz (16ppb) 0.55% line width < 20 Hz 20 ppb or better
- NMR should operate without compressed air.
- Sensitivity: > 100:1 for 1% ethyl benzene single scan
- Sample: Tube of 5mm OD, 7" length or capillary type sample introduction.
- Magnet: Permanent and cryogen free
- The system should be equipped with fast automatic lock system and it should be operable without deuterated solvent also.
- The system should be quoted with online reaction monitoring through flow cell.
- **Software:** Advanced user friendly Windows based software for complete control of instrument, data acquisition & advance data processing etc.
- System should be ready to perform 2D COSY, JERS experiments.
- System should be ready to perform DEPT, HETCOR, HMBC, HMQC experiments
- Adequate rating on-line sine wave UPS with isolation transformer with 1 hr. backup facility of reputed brand.

### **PC & Printer:**

Branded PC with i7, windows software, 1TB HDD, 19 inch TFT monitor, 4GB RAM and color Laser printer should be supplied along with the instrument.

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### **13. SPECIFICATION FOR MOBILE DRUG TESTING VAN**

SPECIFICATION FOR MOBILE TESTING VAN FOR CONFIRMATORY TESTING OF NARCOTIC DRUGS & PSYCHOTROPIC SUBSTANCES / DRUG OF ABUSE ON THE SPOT OF SEIZURE.

#### **TECHNICAL SPECIFICATION FOR VAN**

1. Should have sufficient space to accommodate essential Mobile Testing Equipment / Instrument.
2. Dimensions(minimum): overall length – 6000mm , width –1900mm & height – 2000mm
3. Proper Tables / Platform arrangement to be fitted to accommodate the Instruments.
4. Adequately air conditioned to maintain the humidity with de-humidifier along with humidity indicator. Air-conditioning system shall provide required conditions inside the VAN when outside temperature is up to 50 °C and humidity is up to 95%.
5. Provision for Storage tanks for Distilled Water & Service water
6. Provision for Wash basin & Sinks
7. Proper Storage / Collector Tanks for Waste water from sink / Wash basin etc.
8. Portable Generators (min. 5 KW) for continuous power supply.
9. Sufficient Power Points for the Instruments/Equipment and other accessories.
10. Portable refrigerator to keep Chemicals, Reagents, Test Kits and Reference Standards etc.
11. Portable Instruments for testing of Narcotic Drugs to be accommodated in the VAN

#### **1. Ion Mobility Spectrophotometer with following Specifications.**

Type of Instrument (Ion Mobility Spectrometer)	: Trace Narcotics IMS
Storage Temperature	: (-) 20 °C to 60 °C
Operating Temperature	: 0 to 45 °C
Technology Type of Instrument	: Ion Mobility / Ion Trap Mobility Spectrometry Twin Tube ; Open IMS
Ionization Sources	: Non-radioactive Photo-ionization
Detector Type	: Ion Trap / Ion Mobility Spectrometer.
Warm up time	: < 30 Min.
Analysis Time	: < 10 sec. for narcotics
Sampling Acquisition	: Swab or Optional Vacuum Collection
Display	: At-least 10.4” TFT LCD / LED Multi – Touch display
Detection Mode	: Standard Narcotics, Precursors & Drugs of Abuse
Library	: In-built library for Narcotic Drugs & Psychotropic substances.
Power back up	: Suitable on-line sine wave UPS with isolation transformer with 1 hr. backup facility of reputed brand.

**2. Portable FT-IR with following Specifications**

Interferometer	: to be permanently aligned sealed and desiccated.
Wave length range	: 5000 – 600 cm <sup>-1</sup>
Spectral Resolution	: Less than 2 cm <sup>-1</sup> or better
Sample Interface	: ATR Accessories
Spectrometer Interface	: Compatible USB Port
Software	: Software for Data Acquisition, processing & Library matching with standard NIST library of Drug of abuse.
Library	: Licensed version of Standard NIST Library for Narcotic Drugs and Drugs of abuse.

**3. Field Test Kit for Narcotics Drugs**

**4. Hand-held Digital pH Meter**

**5. Hand held Digital Humidity cum Temperature indicator**

**6. Portable Digital Melting Point apparatus**

**7. Compatible PC with printer to connect all the instruments.**

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## **ANNEXURE-II**

### **Specifications of Equipment/ Instruments for Bhutan**



**1. SPECIFICATION FOR DOUBLE BEAM UV-VISIBLE SPECTROPHOTOMETER**  
**WITH ACCESSORIES**

<b>Photometric System</b>	DOUBLE BEAM
<b>Light Source</b>	Deuterium & Tungsten Halogen Lamp with automatic switch over/Xenon flash lamp
<b>Detector</b>	Photo Multiplier Tube/Dual Silicon Photo Diode/ suitable detector of latest technology
<b>Grating</b>	1050 lines/mm or better
<b>Spectral Bandwidth</b>	1.0 nm or better
<b>Wavelength Range</b>	190-1100 nm
<b>Wavelength Accuracy</b>	0.1 nm for entire range of wavelength or better
<b>Wavelength Repeatability</b>	0.1nm or better
<b>Photometric Range</b>	(-) 3.0 to 3.0 Abs or better
<b>Photometric Accuracy</b>	0.005 A at 1.0 Abs
<b>Noise</b>	1.0A : $\leq 0.00050A$
<b>Stray Light</b>	KCl 198 nm $\leq 1\% T$ NaI 220 nm $\leq 0.05\% T$ NaNO <sub>2</sub> 340 nm $< 0.05\% T$
<b>Sample Compartment</b>	<ul style="list-style-type: none"><li>• At least four pairs of quartz cuvettes with standard 10mm with Peltier temp controller.</li><li>• The instrument should have automatic cell changer for multi sample analysis(min 6 sample changer)</li></ul>
<b>Software</b>	Original licensed window based user friendly software with multi-tasking facility.
<b>Data station</b>	Branded PC with i5,1TB HDD, 17inch TFT monitor, 2GB RAM and Laser printer should be supplied along with the instrument

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## **2. SPECIFICATIONS FOR GAS CHROMATOGRAPH SYSTEM, ACCESSORIES & GAS GENERATORS**

The GC system should have two injector ports with Programmable Pneumatic/pressure controls.

- The system should be able to connect the capillary columns of dia of 0.1µm to 0.53 µm and length up to 60 m.
- The instrument should have back flush facility.
- The GC data system should be based on Windows operating system for instrument control, data acquisition, data analysis, quantization with following specification.

### **I. Oven:**

- 1) Temperature range : Ambient to 450<sup>0</sup>C
- 2) Oven temperature stability : 0.05<sup>0</sup>C
- 3) Temperature programmed : 15 ramps/16 plateau or better.
- 4) Heat up time : 50<sup>0</sup>C to 450<sup>0</sup>C in less than 5 min.
- 5) Cool down temperature : 450<sup>0</sup>C to 50<sup>0</sup>C in less than 5 min

### **II. Pneumatics:**

- 1) Programmable Electronic control/EPC/AFC for all injectors, detectors as well as for auxiliary channels with single point control via software.
- 2) Automatic leak testing and column evaluation.

### **III. Injectors:**

- 1) Split/ Split less Capillary Injector.
- 2) Automatic control of split vent and purge flows.

### **IV. Detector:**

#### **A) Flame Ionization Detector:**

- 1) Temperature range: Ambient to 450<sup>0</sup>C in 1<sup>0</sup>C increments.
- 2) Dynamic range > 10<sup>6</sup> or better.
- 3) Flame out indicator.
- 4) Minimum Detection Limit (MDL): 1.5pg c/s or better.

#### **B) ECD Detector:**

- 1) MDL < 5fg/s for BHC/lindane
- 2) Dynamic range > 10<sup>4</sup> or better.

**V. Auto sampler:** with variable syringe size with provision for 100 vials 2 ml capacity.

The instrument must have provision to upgrade for head space attachment in future.

### **VI. Data system Software**

The software should be validated with single point control system of entire GC instrument and auto sampler. It should be able to acquire, process the data for qualitative & quantitative analysis. It should be GLP compliance.

### **VII. PC & Printer**

Branded PC with i7, windows software, 1TB HDD, 19 inch TFT monitor, 4GB RAM and Laser printer should be supplied along with the instrument.

## VIII. Accessories and column

- Capillary columns of 0.25µm I.D. x 30 & 60 metres length suitable for the analysis of Narcotics & psychotropic substances and drugs of abuse.
- Syringe of capacity of 5 µl and 10 µl: 4 Nos. in each.
- Sonicator with 5 litre capacity
- Gas cylinders with regulator for Nitrogen, Hydrogen and Zero-air and cylinder mounting brackets.
- Gas purification panel with moisture trap.
- Online sine wave 5kVA UPS with isolation transformer with 2 hr. backup facility of reputed brand.

## IX. OTHERS: Nitrogen, Zero Air, Hydrogen gas generators with following specifications.

### A. Specifications of Nitrogen Gas Generator

1. Flow rate : 750 nml/min
2. Purity : 99.999%
3. Delivery pressure: Up to 5 bar (75 Psig)
4. Method of Purifications : Pressure Swing Adsorption Technology
5. Input pressure for model without compressor : 7 bar min (110 Psig) / Non condensing and oil free Air
6. N<sub>2</sub> purity : < 0.1 ppm Total Hydrocarbons
7. DP: (-)50°C (-58°F)
8. Internal tank : 32 L
9. Sound level < 70 dbA
10. Particle filtration level: 50 µm
11. Fittings: 1/4" Swagelok for outlet N<sub>2</sub> and Inlet Air
12. User interface: Pressure setting, system status, user parameter / Touch screen / LCD graphic display
13. Power supply: 230 V / 50 Hz
14. Start-up time : 2 hours or less

### B. Specifications of Zero Air Gas Generator

1. Outlet Zero Air : 1500 ml/ min
2. Outlet Hydrocarbon concentration : <0.05 to 0.1 ppm
3. Outlet Carbon Monoxide concentration : <0.1 ppm
4. Outlet particles < 0.5 microns removed : 99.99%
5. Outlet Air Temperature : Ambient + 15 Deg C
6. Max Inlet Hydrocarbon concentration : 100 ppm
7. Max Inlet Carbon Monoxide concentration : 50 ppm
8. Max Inlet Temperature : 40 Deg C
9. Inlet Pressure Range : 4.5 - 10 bar
10. Maximum outlet pressure : 6.5 bar
11. Max Continuous output flow rate : 1.5 litre/min
12. Start-up time for specified THC Concentration : 10 min

### C. Specifications of Hydrogen Gas Generator

1. Purity : 99.9999%
2. Electrolysis Cell : Solid Polymer Membrane Type
3. Delivery Pressure : 20 - 155 psig / 1.4 - 11 bar (g)
4. H<sub>2</sub> Flow rate : 100 cc/min

5. Auto Drying system requiring no maintenance
6. Safety : Auto Shut-off / Low internal volume of H<sub>2</sub> Gas < 40 ml
7. User interface : Set points, system status, user parameter/ touch screen / LCD graphic display
8. Outlet Port: - 1/8" Compression
9. Power supply: 230 V / 50 Hz
10. Water - Deionized or Distilled
11. Remote command : RS232 / 485
12. Cascading : Upto 10 units

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### **3. SPECIFICATION FOR HPLC & TLC SYSTEM WITH ACCESSORIES**

HPLC System with complete control of all components through computer for analysis of Narcotics & psychotropic substances/ Drugs of abuse. The system should have the following specification

#### **I. Solvent Delivery system:**

Quaternary Pump with on-line vacuum degasser should be able to deliver four solvents. Facility for dynamic gradient mixing and gradient operation in binary, ternary and quaternary modes.

1. Operating pressure : 0 to 6000 psi
2. Flow accuracy :  $\pm 1\%$  for entire flow range
3. Flow precision :  $\pm 0.075\%$  RSD for entire range of flow rate
4. Flow rate : 0.01 – 10.00 ml/min
5. No. of solvents : 1 to 4
6. Composition accuracy :  $\pm 0.5\%$
7. System delay volume :  $< 400\ \mu\text{l}$  or low
8. Programmable gradient profile with more than 5-types of gradient program.
9. On-line degasser for all channels.

#### **II. Auto Sampler**

- Controlled by Key board and software.
- Injection programmable from  $0.1\ \mu\text{l}$  to  $100\ \mu\text{l}$  to suit all applications.
- Precision  $< 0.5\%$  RSD
- 100 vials of 2ml capacity
- Carryover should be  $< 0.005\%$  or better

#### **III. Column oven**

- The instrument should be able to hold at least two columns upto 30cm length along with guard column.
- The temperature range should be ambient to  $80^\circ\text{C}$ .

#### **IV. Detectors: Diode Array Detector**

- Wavelength range : 190- 800 nm
- Wavelength Accuracy :  $\pm 1\text{nm}$
- Light source suitable for entire wavelength range
- Should have programmable slit width
- Digital resolution 1.2 nm or better
- Linear absorption range:  $\pm 2\text{AU}$  or more.
- Noise  $10^{-5}\ \text{AU}$  or lower
- Drift  $\leq 1 \times 10^{-4}\ \text{AU/hr}$ .
- Linearity  $< 5\%$  at 2 AU

#### **V. Software Computer System:**

Validated software with single point control of the entire HPLC system. Customizable data reports, online help wizards, report publisher, compatibility with diode array detector, RI, Fluorescence

detectors and facility for GPC data handling. It should be GLP compliance. Original software CD with licence should be provided.

#### **VI. PC & Printer**

Branded PC with i7, windows software, 1TB HDD, 19 inch TFT monitor, 4GB RAM and Laser printer should be supplied along with the instrument

#### **VII. Spares & consumables**

- Solvent Filtration Kit (Aqueous and Organic) including vacuum pump, 1lit Flask, Membrane filters etc.
- Two numbers each of Phenyl hexyl, C-18 & C-8 columns of 25cm x 4.6mm i.d. x 3.2 and 5  $\mu\text{m}$  particle size along with Guard columns of branded reputed manufacturer.
- Sample extraction kits (SPE) for drugs of abuse
- Online sine wave UPS of suitable capacity with isolation transformer with 2 hr. backup facility of reputed brand.

#### **VIII. Others**

- **A. Specifications of Water Purification System for HPLC**

1. A heavy-duty Water Purification System capable of producing ultrapure, HPLC Gradient Grade water from ordinary tap water supply with the following requirements:

- a. The water produced by the system should be ready to use with HPLC systems.
- b. Water quality monitoring and maintenance requirements should be as on-screen display.
- c. Point-of-use dispensing feature should be available.
- d. Capable of handling feed water quality of up to 2000  $\mu\text{S}/\text{cm}$ , fouling index < 12 and total chlorine < 3 ppm
- e. Built-in UV Lamp for reducing bacteria content.
- f. The following technical requirements for the product ultra-pure water should be met, and relevant values should be provided in the quotation:
  - Resistivity 18.2  $\text{M}\Omega$  at 25°C
  - TOC Levels < 5 ppb
  - Bacteria < 1 cfu/ml
  - No Particulates larger than 0.2  $\mu\text{m}/\text{m}$
  - Flow Rate at least 1.5 L/m
  - Should be able to remove 95 – 99% of all inorganic ions and 99% of dissolved organic substances
- g. Electronic display of resistivity and temperature, with TOC set-point alarm.
- h. Facility to upgrade the system to more stringent product requirements at a later stage
- i. System should comply with validation requirements.
- j. Should meet international ISO standards or equivalent.

2. Accessories: All required accessories for connections to inlet and dispensing points, and any other special requirements for optimum operation of the instrument, should be included.

3. Details of Cartridges: Full Details of the cartridges used in the system, with estimated lifetime and cost of replacement, should be specified in the quotation.

4. Compliance Statement: A statement of compliance of the submitted quotation with the requirements in this specification should accompany the quotation.

• **B. Specifications of Thin layer Chromatography (TLC) and its accessories**

1. **Twin Trough Chamber:**

20x20 cm chamber, 20x10 cm chamber and 10x10 cm chamber.

2. **TLC Sprayer** comprised of charger, pump unit with one each spray head type and one each reagent bottle of 100 mL and 50 mL with cap.

- a) Pack of 5 spray heads type
- b) Pack of 6 spray heads type
- c) Reagent bottle 100 mL with cap, pack of 6
- d) Reagent bottle 50 mL with cap, pack of 6
- e) Service kit for TLC sprayer
- f) Glass reagent spray with 100 mL Erlenmeyer flask

3. **TLC Plate Heater**

- a) TLC Plate Heater for heating a TLC/HPTLC plate.
- b) Heating surface should be resistant to all common reagents and is easily cleaned.
- c) 20 x 20 cm heating surface has a grid to facilitate correct positioning of the TLC plate.
- d) Programmed and actual temperature are digitally displayed.
- e) Temperature is to be selectable to 200 °C.

4. **TLC Spray Cabinet**

- a) The TLC Spray Cabinet is to be designed for the complete removal of excessive spray mist while spraying a TLC plate with reagent.
- b) There should be no deflection of the spray jet before it reaches the plate.
- c) The Spray Cabinet is should also be useful for drying plates with or the help of hair dryer.
- d) The cabinet is to be made of PVC. The blower, a radial fan driven by a motor outside of the fume duct, produces an airflow of nearly 130 cubic feet (3.7 cubic meter) per minute.
- e) The bottom of the spray cabinet is to have a built in tray, which is removable for easy cleaning.

5. **Dual Wavelength UV Lamp**

- a) The lamp housing is made of anodized aluminum and of shock-resistant plastic. The lamp is to be operated on 12 V AC or DC power which is internally converted to 25–30 KHz high frequency.
- b) The user's risk to exposure of UV radiation - the lamps are to be equipped with a timer that automatically turns off after 10 minutes.
- c) Two wavelengths, 254 and 366 nm of 2 light tubes 8 W each.
- d) Powered with 12 V AC from the mains adapter supplied or via an optional connecting cable from 12 V DC.

6. **TLC Plates:** Pre-coated glass and Aluminium sheets silica gel 60 F 254; 20 x 20, - 25x8 pkts

7. **Capillary Tubes:** 100 pkts.

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#### **4. SPECIFICATIONS FOR GAS CHROMATOGRAPH MASS SPECTROMETER(GCMS) WITH HELIUM CYLINDER AND ACCESSORIES**

The **basic GC system** should have two injector ports with Programmable Pneumatic/pressure controls.

- It should be possible to connect the two Columns simultaneously to MS detector.
- The system should be able to connect the capillary columns of dia. of 0.1  $\mu\text{m}$  to 0.53  $\mu\text{m}$  and length up to 60 m.
- The instrument should have back flush facility.
- The GC data system should be based on Windows operating system for instrument control, data acquisition, data analysis, quantization with following specification.

##### **I. Oven:**

- |                               |   |   |
|-------------------------------|---|---|
| 1) Temperature range          | : | Ambient to 450 <sup>0</sup> C                               |
| 2) Oven temperature stability | : | 0.05 <sup>0</sup> C   |
| 3) Temperature programmed     | : | 15 ramps/16 plateau or better.                              |
| 4) Heat up time               | : | 50 <sup>0</sup> C to 450 <sup>0</sup> C in less than 5 min. |
| 5) Cool down temperature      | : | 450 <sup>0</sup> C to 50 <sup>0</sup> C in less than 5 min  |

##### **II. Pneumatics:**

- 1) Programmable Electronic control/EPC/AFC for all injectors, detectors as well as for auxiliary channels with single point control via software.
- 2) Automatic leak testing and column evaluation.

##### **III. Injectors:**

- 1) Split/ Split less Capillary Injector.
- 2) Automatic control of split vent and purge flows.

##### **IV. MS SPECIFICATION**

MS system with ion source for EI and CI mode. It should have branded turbo molecular pump to maintain vacuum across the mass analyser area.

- Mass range of upto 1000 amu in 0.1 amu steps or better.
- Mass axis stability should be 0.10 amu for 24 hrs. or better.
- Scan speed: 10,000 units per second or better.
- Ion source temperature up to 350<sup>0</sup>C for better sensitivity and programmable.
- Ion source: Dedicated EI and CI.
- Transfer line temperature up to 350<sup>0</sup>C.
- Ionization energy range 0 – 150 eV or better.
- EI Full scan sensitivity 1 pg OFN to produce signal to noise ratio 1500:1 for m/z 272.
- It should be possible to inject the samples directly into the mass spectrometer without passing through GC column for both EI & CI mode.
- EI scan sensitivity and detection limit and other relevant parameters should be demonstrated at site.
- Auto tuning provision.

**V. Auto sampler** with variable syringe size with provision for 100 vials of 2 ml capacity.



## VI. Data system Software

The software should be validated with single point control of entire GC instrument and auto sampler. It should be able to acquire, process the data for qualitative & quantitative analysis. It should be GLP compliance.

## VII. PC & Printer

Branded PC with i7, 1TB HDD, 19 inch TFT Colour Monitor, 4GB RAM and Laser printer should be supplied along with the instrument.

## VIII. Accessories and column

- Capillary columns of 0.25µm id x 30 & 60 metres length suitable for the analysis of Narcotics & psychotropic substances /drugs of abuse and general chemicals.
- Syringe of capacity of 5 µl and 10 µl: 4 Nos. in each.
- Sonicator with 5 lit capacity.
- Gas cylinders with regulator for Helium and cylinder mounting bracket.
- Gas purification panel for all gases & exhaust duct system.
- Online sine wave 10kVA UPS with isolation transformer with 2 hr. backup facility of reputed brand.

**IX. Library:** NIST library for drugs of abuse/NDPS and general chemicals - latest version with licence to be supplied with the system.

## X. OTHERS:

- **SPECIFICATION FOR HELIUM CYLINDER**
    1. Gas Purity :- GRADE 5 i.e. 99.999% purity (Minimum)
    2. Gas Pressure:- 140 Kg/sq.cm. (g) (Minimum)
    3. Cylinder Capacity : 47 Ltrs WC
    4. Cylinder's Material of Construction : Carbon Steel
    5. Process Connection: The cylinders should be supplied with Neck-ring Cap of Brass
    6. Valve confirming to IS: 3224. It should have ½# NPT (F) process connection.
    7. Analysis Report: Gas analysis report should be submitted.
    8. THC :- < 1 PPM
    9. CO + CO<sub>2</sub> :- < 2 PPM
    10. H<sub>2</sub> :- < 2 PPM
    11. O<sub>2</sub> :- < 2 PPM
    12. H<sub>2</sub>O :- < 2 PPM
    13. N<sub>2</sub> :- < 5 PPM
    14. Ar :- Nil
    15. Certificates must be submitted for cylinders meeting specifications as provided in IS-7285 and shall have Bureau of Indian Standards (BSI) certification.
    16. Manufacturer's certificate for the gas purity must be submitted.
- .....