



Government of West Bengal
Office of the Administrator Forensic Science Laboratory
Home & Hill Affairs Department
37/1/2 Belgachia Road, Kolkata-700037

Memo No: 287/FSL/ET-05(2nd Call)/2024-25

Dated: 20.02.25

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Log-on for submission: <http://www.wbtenders.gov.in>

NOTICE INVITING e-TENDER

Tender e-NIT No - SFSL/KOL/ET-05/2024-25 (2nd Call)

The Administrator, FSL, Kolkata invites e-Tender for procurement of following **Instruments** detailed in the table below for FSL, WB from reputed Manufactures/ Direct Importers/Authorized Distributors having desired prequalification eligibility credential for execution of supply and satisfactory installation of items of similar nature and requisite financial capability. The technical bid in Part-I would require the bidder to only qualify for the next stage and the Part-II comprising financial bid would determine final selection of bidder. (Collection and Submission of Tender is to be made online through the website - <https://wbtenders.gov.in> only).

Minimum period given to the contractors/bidders for submission of e-bids is counted from the date on which the notice inviting tender including e-tender is actually published in the website.

Sl. No.	Name of the items	QTY	Earnest money to be deposited (Rs.)	Cost of Tender Documents (Tender fees) (Rs.)	Eligibility of Tender
1	Gas Chromatography-Mass Spectrometer	1 No	1,60,000	Nil	Do

2	Gas Chromatography-Mass Spectrometry with Head Space	1 No.	1,60,000/-	Nil	Do
3	Fourier Transform Infrared Spectrometer (FT-IR)	2	80,000/-	Nil	Do
4	Accelerated Solvent Extraction System	2	2,20,000	Nil	Do
5	Ion Chromatograph	1	40,000/-	Nil	Do
6	Viscosity Meter and Density Meter	1 No.	70,000/-	Nil	Do
7	Handheld Raman Spectrometer	1 No.	40,000/-	Nil	Do
8	High Performance Thin Layer Chromatography (HPTLC) (1 number for RFSL, Jalpaiguri)	1 No	80,000/-	Nil	Do
9	Bench-Top Digital Centrifuge Apparatus (for RFSL, Jalpaiguri)	1 Nos.	12,000/-	Nil	Do

- **N.B:** It is advised that tenderers willing to participate only for some of the items in the tender, should opt for availing concession in the beginning before generating challan and then pay EMD for the participating items only.

Terms & Conditions

1. General Instructions:

In the event of e-filing, intending bidders may download the tender documents free of cost from the website: <http://wbenders.gov.in> directly with the help of Digital Signature Certificate.

2. Submission of Bids:

Both Technical Bid and Financial Bid are to be submitted concurrently duly digitally signed, in the website <http://wbtenders.gov.in>. All papers must be submitted in English language.

3. Time Schedules:

The time Schedule for obtaining the bid documents, registration with the tendering authorities, the submission of bids and other documents etc. will be as per the list provided in clause no 19 as given below.

4. Eligibility Criteria:

Only Manufactures/ Direct Importers/Authorized Distributors are eligible for quoting. The price is to be quoted in **Indian Rupees** including cost of insurance, packing, forwarding, freight charges, clearing charges and installation of the new instruments. The GST and other taxes are to be quoted separately in the BOQ. Agency commission is not permissible.

5. Submission of Tender:

The tender is to be submitted in Two Bid System (Technical Bid or Bid A & Financial Bid or Bid B).

(A) Technical Bid or Bid A:

Statutory Cover containing the following documents:

File containing Technical Bid only – single file with multiple scanned pages containing Statutory and My documents separately.

BID A”: PART I

(SINGLE FILE MULTIPLE PAGE SCANNED

Essential Requirements of the Tendering Firm for participation shall contain all papers related to the essential requirements of the Tenderer for participation in the tender viz.

SL. No.	<u>Description</u>	Page no.
<u>1</u>	Duly filled in CHECK LIST in the prescribed format. Page number of documents must be mentioned in the check list before uploading the same	
2	Application in the prescribed format given in Annexure- I	
3	Authorisation letter of signatory from Company in Annexure- II	
4	Copy of agreement between the manufacturer and the Distributor in Annexure- III	
5	No Conviction certificate in the form of an Affidavit as per Annexure- IV	

BID A": PART II(INSTRUCTION TO THE BIDDERS):

Technical specifications of Instrument (in PDF/Excel format, must mention make, model, exact features of the offered item against each point given in the specification chart).**Improper filling &/or suppression of facts/false statement will lead to disqualification and penalty in the form of permanent black listing.**

MY DOCUMENTS: Containing the following documents:

Essential Requirement of the Tendering Firm for participation shall contain all papers related to the essential requirements of the Tenderer for participation in the tender viz.

Sl. No.	Category	Sub Category	Sub Category Description	Page No
A	Certificates	AI. Certificates	GST Registration Certificate	
			PAN Card of the authorised signatory	
			Professional Tax Registration Certificate	
			PUC in respect of the manufacturing unit	
B.	COMPANY DETAILS	BI. COMPANY DETAILS 1	Registration with Registrar of Companies	
			Certificate of country of origin	
			Trade License in the name of participating firm	
C	CREDENTIAL	C1: CREDENTIAL 1	Manufacturing License with validity	
			Import License with validity (for importers)	
		C2: CREDENTIAL 2	Manufacturer's guarantee (in case of Distributors and Direct Importer, to be obtained from manufacturer)	
			A declaration in respect of existence of a fully equipped service centre in or around Kolkata in respect of the relevant item.	
			Tenderers under this category shall have satisfactorily completed supply & installation of the quoted items during the	

			last 3 (three) years prior to the date of issue of this Tender Notice to the Govt. or Govt. undertaking Institution in the State of West Bengal or other State or States or Organisation/ Institution of the Govt. of India. <i>The Completion Certificate, Work Order, Value of supply, Date of supply and detail communicational address along with contact number of the Client should be treated as valid Credential and to be submitted with the technical bid documents.</i>	
D.	FINANCIAL INFO	PAYMENT CERTIFICATE 1	Income Tax Returns submitted for the last three years	
		Audited P/L & BALANCE SHEET	P/L & Balance sheet of the last three years	

(B) Financial Bid or Bid B :

COVER "B": Separate file containing financial document only.

Financial Bid : BOQ in INR (in excel sheet)

The folder marked as "Financial Bid" shall contain **All INCLUSIVE PRICE in INR only** and should include base price along with the cost of allied works and services which are to be undertaken (like installation, commissioning of equipment etc), cost of insurance, packaging, forwarding, delivery charges, clearing charges of the new instrument to be purchased. The GST and any other applicable tax, should be quoted separately.

The tenderers are required to submit the hard copies of Cover A (Transaction document of EMD, General Documents and Technical Specifications) as per schedule described in the time line vide clause 19, preferably by **speed post/ Courier**, to the office of the **Administrator, FSL, Kolkata.**

Submission of hard copy of Cover A to the office of the Administrator, FSL, Kolkata is for reference only while examining the technical bid on line and will not be treated as substitute for on line submission. **Submission of hard copy of Bid B is totally prohibited.**

6. Evaluation of Tender:

During tender evaluation process, "Bid A" will be opened first. Those tenderers who would qualify the Statutory & Non-Statutory requirements on the basis of technical and commercial documents will be identified and "Bid B" i.e. financial bid of only those qualified bidders will be opened. Verification of hard copies of the audited balance sheet and profit

& loss Accounts of the tenderers for the last three years will be made if deemed necessary before opening the Financial Bid (Bid B) of the technically qualified bidders. If found suitable on the basis of above prequalification, the tenderer quoting the lowest rate, will be considered as successful.

7. Earnest Money:

It is advised that tenderers willing to participate only for some of the items in the tender, should opt for availing concession in the beginning before generating challan and then pay EMD for the participating items only. The earnest money of the tenderer is liable to be forfeited if the tenderer withdraws his tender as a whole or for any particular item or items at any stage after opening of the tender or fails/ refuses to furnish Performance Bank Guarantee within the stipulated time. EMD as specified in the above table against the items should be deposited online in the pooling Account of Government of West Bengal maintained at ICICI Bank, RN Mukherjee Road Branch in the manner as prescribed in Government Order No. 3975-F(Y) dated 28/07/2016. (Order copy is available at the site-www.wbfin.nic.in) Hard copy of Bid A should reach the office on or before the stipulated date as mentioned in clause 19.

8. Rate:

The price is to be quoted for one number of item in INR only including cost of insurance, entry tax, packaging, forwarding, delivery charges, clearing charges and installation of the new instrument. The basic rate should be furnished inclusive of Transportation Cost, Insurance, Testing Charges, incidental charges etc. but excluding GST and any other applicable taxes etc. which should be quoted separately in the template for Bill of Quantities (BOQ).

9. Order & Supply:

The tendering authority has the liberty to ask for performance demonstration of any item during any stage of the tender process, before placing order for supply. In case of dissatisfaction, the authority will have to right to disapprove the offer of L1 bidder. Orders for supply of the approved products will be placed with the successful tender and such supply shall have to be made in such instalments as may be fixed or spread over the period to be transported in such packaging so as to avoid damage to primary package of manufacturer. The successful tender will have to supply within the specified time schedule as noted in the purchase order and as assured at the time of selection as supplier.

10. WITHDRAWAL/CANCELLATION & PURCHASE POLICY OF TENDERING AUTHORITY:

The tendering authority reserves the right to withdraw any item from the tender at any stage. The selection of such item, if already made in favour of any tenderer, shall be treated as cancelled. The tendering authority reserves the right to reject or accept any tender or part

thereof at any stage or to split any tender without assigning any reason. Withdrawal of tender or any revision after submission of tender by the tenderer will not be allowed.

Purchase will, however be made following the existing purchase policy of the Govt. of West Bengal and its amendment(s) made from time to time. The purchase policy of the State

Government as provided in the West Bengal Financial Rules, the policy of price preference in particular incorporated under Notification No. 10500-F dated 19.11.04, 5400-F (Y) dated 25/06/2012 and subsequent relevant orders should be observed in considering the tenders.

11. Important Instruction with regard to Submission of Tender:

The rate should be quoted in Indian Rupees for a particular brand or model (model no. of the offered item only must be mentioned in the appropriate column of the 'Tender Form'. Alternative offer will not be accepted). The tender shall be cancelled for the Quotation of item without its brand name, model, model no. etc. Detail information regarding the manufacturer and the item quoted in the 'Tender Form' should be furnished.

12. Spare Parts:

The Bidder will undertake that supplies of necessary maintenance of machine and spare parts will be made available for all items/machine and the complete system for at least six years on a continuing basis. However, this does not relieve the supplier of any warranty obligations under the contract.

13. Guarantee / Warranty Period:

- i) The machine should be covered by free on-site comprehensive Warranty for at least 03 (three) years and may provide extended free warranty for one year to the satisfaction of the Administrator, FSL, Kolkata from the date of successful installation of the instruments.
- ii) The supplier should undertake to execute AMC/CMC for three years after warranty is over at the cost of not more than 10% of the cost of instrument which will be paid during the period of AMC/CMC. **Extended AMC price should not be included in the quoted price of the instruments.**
- iii) All faults appearing and their rectification shall be periodically advised to the institute, the period being not more than two weeks.
- iv) Any lacuna or lacunae noticed in the functioning of the installation as a result of any design or other feature shall be rectified by the supplier free of cost within 48 hours of call log.

14. After Sales Services and Maintenance Contract:

After sales service must be provided by the supplier, during and after warranty period of the equipment. The selected vendor or his authorized servicemen has to attend the machine within 24 hours of Call Log. It is desirable to have a fully equipped service centre in or around Kolkata.

15. Delivery, Installation and Commissioning

- i. Delivery of the machine at the purchaser's premises shall be completed by the Supplier in accordance with the terms specified by the purchaser.
- ii. The installation, testing and commissioning of the proposed system shall be completed in accordance with the order.
- iii. **All items are to be delivered within six weeks from the date of placement of order.**
- iv. In case of distributor, the firm should be direct distributor of manufacturing unit. **Sub distributor authorization by distributor will not be accepted at all.**

16. Penalty Clauses:

PENALTY FOR FORMATION OF CARTEL OR FURNISHING OF FRADULENT/MISLEADING DOCUMENTS: If during the tender process or at any stage during the validity of the tender period, it is found that a tenderer(s) has formed a cartel in what so ever form or name to fix up the rates or suppliers to the detriment of the fairness of the tender process, penal measures shall be initiated. Similar penal measures shall also be initiated against those tenderers who have submitted false/misleading/fraudulent documents or made incorrect declarations. The penal measure will be forfeiture of Earnest Money in addition to any other legal action against the firm.

17. Performance Bank Guarantee:

The performance bank guarantee will be mandatory for all suppliers and will not be waived in any case. The successful tenders shall be required to furnish the 'Performance Bank Guarantee' from any Nationalized/Scheduled Bank acceptable to Govt. of West Bengal for the period of **free warranty period @ 3% of quoted base rate** for which the tenderer has been selected as supplier. The performance bank guarantee will be transferred to the bidder's account after free warranty period.

18. Payment Terms:

Payment will be made electronically by Govt. of West Bengal approved system after execution of due supply and successful installation and commissioning subject to:

- i. Submission of Performance Bank Guarantee in terms of Clause 17 and subject to penalty clause in terms of Clauses 16.
- ii. Supply of the materials as per specification as provided in the tender documents and the catalogue. Supply of the materials must be made within the stipulated period as specified in the work orders.

- iii. On being selected, the successful vendors will have to submit one application to the Administrator, FSL, Kolkata, stating the name of the payee/recipient, Bank account no with IFS code of the payee/recipient for making e-payment. Payment will only be released after satisfactory installation and verification of following items-
1. Supplier's invoice in original.
 2. Challan and installation certificate.
 3. Any other thing of importance on the discretion of Authorities.

19. Dates & Information:

Sl. No.	Particulars	Date & Time	
1.	Date & Publishing of NIT online through the website https://wbtenders.gov.in	21.02.2025 at 10:00 a.m.	
2.	Date of pre-bid conference	N/A	
3.	Date & Time for downloading of Tender documents through the website https://wbtenders.gov.in	Start	21.02.2025 at 11:00 a.m.
4.	Date & Time of Submission of Tender documents through the website https://wbtenders.gov.in	Start	28.02.2025 at 10:00 a.m.
		End	14.03.2025 at 05:00 p.m.
5.	Date , Time & Place of opening of Technical Bid through the website https://wbtenders.gov.in	17.03.2025 at 11:00 a.m. Office of the Administrator, FSL. Kolkata, 37/1/2 Belgachia Road, Kolkata-700037.	
6.	Date of Uploading the Final List of Technically Qualified Bidders through the website https://wbtenders.gov.in	To be informed later	
7.	Date, time & Place of opening of Financial Bid through the website https://wbtenders.gov.in	To be informed later	
8.	Date of Uploading of List of Bidders along with their Rate Offered through the website https://wbtenders.gov.in	To be informed later	

- **The Administrator, FSL, Kolkata, reserves the right to change the above schedule in case of any exigencies.**

20. Validity of Tender:

- i. The tender will remain **valid up to 1 (one) year** from the date of finalization of tender **which can be extended for a period of 6 months**. Any objection raised by any bidder in this respect will not be entertained. No informal tender will be entertained in the bid further.
- ii. During the scrutiny, if it comes to the notice of Tender Inviting Authority that the credential or any other paper found incorrect/manufactured/fabricated, that bidder would not be allowed to participate in the tender and that application will be out rightly rejected without any prejudice.
- iii. Prospective bidders must take training from authorized agencies before submission of their bids.

21. NO-CONVICTION CERTIFICATE:

“No conviction certificate” in the form of an affidavit is to be submitted in the prescribed Pro-forma as Annexure-IV attached herewith from Notary Public/Judicial Magistrate/Executive Magistrate issue not earlier than 11 months from the date of publication of NIT.

22. Technical Specifications:

Technical specification of items Sl no 1 to 13 are enclosed separately as **Annexure-“A”**.

23. The Tender Inviting Authority reserves the right to cancel the N.I.T. at any time due to unavoidable circumstances and no claim in this respect will be entertained.

Sd/-
Administrator
Forensic Science Laboratory
West Bengal

CHECK LIST (MUST BE PROPERLY FILLED)

NOTE: For Non applicability for some documents please mention "NA" in the check list.

Sl No.	I t e m	Please put tick or NA	Page No.
1	Application submitted in Annexure I		
2	Annexure II (Authorization letter of signatory from the company)		
3	Annexure III (Copy of agreement between the Manufacturer and the Direct Importer/Distributor)		
4	No conviction certificate in the form of an Affidavit as per Annexure - IV		
5	Income Tax Returns submitted for the last three Assessment years.		
6	VAT/CST Returns (of the last quarter) for the last three Assessment years.		
7	GST Registration certificate		
8	PAN Card of the organization and authorized signatory.		
9	Manufacturer's guarantee (in case of Distributors and Direct Importers, to be obtained from manufacturer)		
10	Audited P/L & Balance sheet of last three years		
11	Technical specifications of Instrument (in PDF/Excel format. Must mention Make, Model, exact features of the offered item against each point given in the specification chart).		
12	Trade License in the name of participating firm		
13	PUC in respect of the manufacturing unit		
14	Certificate of country of origin		
15	Registration with Registrar of Companies		
16	Valid Manufacturing Licensee		
17	Import License with validity (for importers)		
18	List of purchaser in Govt. Institutions of repute, for last three years		
19	A declaration in respect of existence of a fully equipped service centre in or around Kolkata in respect of the relevant item		
20	A Proof of submission of applicable EMD		

ANNEXURE – 1
APPLICATION FORMAT

(To be furnished in the Company's official letter pad with full address and contact no etc)

To

The Administrator, FSL, Kolkata-37.

Sub : Tender No.....Dt..... Name of the Item
1).....2)
.....3).....4).....
.....) for purchase and installation of **Instruments/Equipments for Narcotics Section of FSL, Kolkata.**

Ref.:

Sir,

Having examined the pre-qualification & other documents published in the N.I.T.,I/We hereby submit all the necessary information and relevant documents for evaluation:

1. That the application is made by me/us on behalf of in the capacity ofduly authorized to submit the offer. The authorization letter from the company is attached in Annexure II.
2. We accept the terms and conditions as laid down in the NIT mentioned above and declare that we shall able by it for throughout the tender period and its extensions, if any.
3. We are offering rate for the following item/items and assured supply to the FSL, Kolkata as per instrument Specification.
4. a. We propose that the order and bill should be raised in our name.

For liasoning, we have appointed M/s having its office at(Address, contact no and e mail address) as C&F agent/Liaisoner/Contact person/ Others (strike out whichever is not applicable) as per clause of the NIT.

OR

- b. We propose that order and bill should be raised in favour of our authorized distributor. For that purpose, we have appointed M/s having its office at (Address with contact no and e mail address) as authorized Distributor who will receive order and payment in his name on our behalf.
- c. The agreement between ourselves and the distributor/C&F/Liaisoner & other documents as prescribed is attached in annexure III.
5. In the event of being selected, supply will be made within the stipulated period excepting the condition which is beyond our control.
6. We understand that:

(a) Tender Selection Committee/Home & Hill Affairs Dept can amend the scope & value of the contract bid under this project.

(b) Tender Selection Committee/Home & Hill Affairs Dept reserves the right to reject any application without assigning any reason.

Date:

Signature of applicant including title
And capacity in which application is made.

Contact details –

Mobile:

Email ID:-

Annexure II

Authorization letter in favour of the applicant (other than Managing Director/Proprietor) –
From the Competent Authority.

FORMAT

(To be furnished in the Company's official letter pad with full address and contact no. E
mail
Address etc)

(TO WHOM IT MAY CONCERN)

This is to certify that Mr/Mrs..... (Name), an employee
of this Organisation as
.....(Official
Designation) is hereby authorized to submit tender online, vide NIT
No.....Dated..... On behalf of the
Organisation.

Signature of the
Competent authority with Seal

.....
(Signature of the Authorized Person)

Signature of Mr./Mrs.....
.....is hereby attested.

Annexure- III

a. Copy of agreement between the Manufacturer and the Direct Importer/Distributor in Annexure -III

ANNEXURE – IV
Draft Affidavit Proforma

I, Sri/Smt.....
The Managing Director/Proprietor (etc.) of the Firm
..... (Name of the firm) at
(address).....P.O.
P.S.....Dist.Do hereby solemnly
affirm and declare as follows:

a. That I am not under conviction of any office making myself liable to be disqualified to supply of any item/Items as quoted in this tender to any Govt. or Govt. undertaking Organisation/Institution in the State of West Bengal or other State or States.

b. My Firm has not been blacklisted at present as a whole or for any item/Items as quoted in this tender by any Gov. or Govt. Undertaking Organization/Institution in the State of West Bengal or other State or States in India.

c. That no case is pending against me or against my Firm in any criminal court of law in connection with the supply of Instruments to the Govt. or Govt. undertaking Organisation/Institution in the State or West Bengal or other State or States (If any case is pending, pl state the details).

d. That, I declare that the item or items quoted by me confirms the specification given in the NIT document or higher standard relating to the specification is provided.

e. The duly authenticated Technical Data Sheet is uploaded conforming to the prescribed standard.

f. That, I also declare that if any information subsequently found incorrect or false will it automatically render the tender submitted by me cancelled and make me liable for penal/legal action as per law of the country.

g. That, I do further affirms that the statements made by me in this tender are true to the best of my knowledge and belief and all the documents attached are genuine & correct.

Deponent

“Annexure-A”

CHEMISTRY DIVISION

Item No. 1 Gas Chromatography-Mass Spectrometer

General Specifications: -

For Gas Chromatography		
1	GC	fully automated microprocessor controlled with extensive self-diagnostic facilities and with Auto sampler
2	Auto sampler	The system should have auto sampler to adjust at least 100 vials Injection cycle time should be less than 8 sec in specified conditions. The Auto sampler has to support a wide range of injection volumes. Auto sampler should be controlled by system software.
3	Oven Temperature	450 0C with 6 or more ramps facility settable from 0.1 0C to 50 0C/min or more
4	Injector- temperature	Up to 400 0C in 10C increment or more
5	Injector	split and split less injector for capillary column
6	Flow controller for carrier	automatic digital flow and pressure controller /EPC
7	Safety features	auto leak detection of carrier gas & automatic shut down of GC in case of a leak
8	GC system should have a gas saver mode	
9	Software	Windows-based
10	Validation	GC and software should have a validation facility
11	Column	DB-5 MS/ HP 5 MS, 15 m X 0.25 mm x 0.25 micro-metre one no.
12	ISO 9001 certification and GLP compliance	

Mass Spectrometer		
1	Mass 27pprox.27-	quadruple with pre-filter
2	Ionization source-	electron ionization (EI) and chemical ionization (CI) (Positive and negative) equipped with advance non-vacuum breaking cleaning facility
3	Mass range-	10-1000 amu or more
4	Electron energy/ ionization voltage-	adjustable electron energy up to 150 eV or more
5	Tune facility -	should have auto & manual tune facility
6	Scan rate	variable up to 5600 amu/ sec or more
7	Vacuum pump capacity	200 lit/ sec or more air-cooled turbo molecular pump
8	Sensitivity/ detection limit	1 pgstd OFN scanning from 50- 300 u at m/z 272 with Helium as carrier gas should produce S/N 400: 1 or

		more in EI mode and equivalent with any other compound 10 pgstd BZP should produce S/N 10:1 or 100 pgstd BZP scanning from 80 to 230 amu in m/z 183 in methane gas should produce S/N 125:1 in PCI mode or better and equivalent with any other compound 1 pgstd OFN should produce S/N 1000:1 or 2 ul injection of 100 fgstd OFN should produce S/N 300:1 in NCI mode or better and equivalent with any other Compound at m/z at 272 amu
9	Calibration facility	should have built calibration facility with internal calibrating material with NIST/ ASTM or equivalent traceability
10	Scanning facility	simultaneous scanning in SIM and full scan (TIC) mode
11	Detector	Dynode/photomultiplier
12	Interface temperature	ambient to 325 0C or more
13	Source temperature	up to 350 0C or more
14	mass library	NIST Mass spectral library, pfliegermaurer weber library, wiley, pesticide
15	User-friendly mass software	should be windows based with validation facility

General Conditions	
	<ul style="list-style-type: none"> • 3-year warranty of the full system including computer, printer, UPS etc should be provided
	<ul style="list-style-type: none"> • Software- suitable for GC along with kinetic software, performance validation software, multi-component analysis software
	<ul style="list-style-type: none"> • Consisting of windows based software with features such as multilevel calibration, baseline correction, all methods of analysis, time programming, plotting and graphical representation of chromatography • Software should be able to control the GC-MS system and data acquisition • the latest configuration of the computer with 2nd gen intel core I 3-2120 (3.30ghz 1333, 3 MB, 2C), genuine windows (R) 7 Home basic SP1 64 bit, 4 GB3 DDR3 SD RAM (1600 Mhz), 3.5 — 1 TB 7200 RPM SATA Hard drive (1 X 500 GB), DVD Combo drive, 21 — colour monitor (TFT), optical mouse, keyboard, HP desk jet/ inkjet colour printer • the original equipment supplier/manufacturer should supply the total computer data station preloaded in the factory
	<ul style="list-style-type: none"> • ISO 9001 certification and GLP compliance.
	<ul style="list-style-type: none"> • Training- on-site training for 5 scientists should be provided for at least 10 days of operational training and 5 days of application training.

Item No. 2 Gas Chromatography-Mass Spectrometer with Head Space

General Specifications: -

For Gas Chromatography		
1	GC	fully automated microprocessor controlled with extensive self-diagnostic facilities and with Auto sampler
2	Auto sampler	The system should have auto sampler to adjust at least 100 vials Injection cycle time should be less than 8 sec in specified conditions. The Auto sampler has to support a wide range of injection volumes. Auto sampler should be controlled by system software.
3	Oven Temperature	450 0C with 6 or more ramps facility settable from 0.1 0C to 50 0C/min or more
4	Injector- temperature	Up to 400 0C in 10C increment or more
5	Injector	split and split less injector for capillary column
6	Flow controller for carrier	automatic digital flow and pressure controller /EPC
7	Safety features	auto leak detection of carrier gas & automatic shut down of GC in case of a leak
8	GC system should have a gas saver mode	
9	Software	Windows-based
10	Validation	GC and software should have a validation facility
11	Column	DB-5 MS/ HP 5 MS, 15 m X 0.25 mm x 0.25 micro-metre one no.
12	ISO 9001 certification and GLP compliance	

Mass Spectrometer		
1	Mass 27pprox.27-	quadruple with pre-filter
2	Ionization source-	electron ionization (EI) and chemical ionization (CI) (Positive and negative) equipped with advance non-vacuum breaking cleaning facility
3	Mass range-	10-1000 amu or more
4	Electron energy/ ionization voltage-	adjustable electron energy up to 150 eV or more
5	Tune facility -	should have auto & manual tune facility
6	Scan rate	variable up to 5600 amu/ sec or more
7	Vacuum pump capacity	200 lit/ sec or more air-cooled turbo molecular pump
8	Sensitivity/ detection limit	1 pgstd OFN scanning from 50- 300 u at m/z 272 with Helium as carrier gas should produce S/N 400: 1 or more in EI mode and equivalent with any other compound 10 pgstd BZP should produce S/N 10:1

		or 100 pgstd BZP scanning from 80 to 230 amu in m/z 183 in methane gas should produce S/N 125:1 in PCI mode or better and equivalent with any other compound 1 pgstd OFN should produce S/N 1000:1 or 2 ul injection of 100 fgstd OFN should produce S/N 300:1 in NCI mode or better and equivalent with any other Compound at m/z at 272 amu
9	Calibration facility	should have built calibration facility with internal calibrating material with NIST/ ASTM or equivalent traceability
10	Scanning facility	simultaneous scanning in SIM and full scan (TIC) mode
11	Detector	Dynode/photomultiplier
12	Interface temperature	ambient to 325 0C or more
13	Source temperature	up to 350 0C or more
14	mass library	NIST Mass spectral library, pflegermaurer weber library, wiley, pesticide
15	User-friendly mass software	should be windows based with validation facility

Head Space		
1	Head Space	<p>12 Vials upgradable to 120-vial capacity with vial loader and 3 removable 40-vial racks, further extendable to 240-vial capacity in future if needed. Vial size – 10 ml, 20 ml and 22 ml headspace vials with:</p> <p>Magnetic crimp or screw caps, flat or rounded bottom without any need of Vial adapter</p> <p>Oven capacity: Air ventilated oven with 12-seat electrically driven carousel</p>

General Conditions	
	<ul style="list-style-type: none"> • 3-year warranty of the full system including computer, printer, UPS etc should be provided
	<ul style="list-style-type: none"> • Software- suitable for GC along with kinetic software, performance validation software, multi-component analysis software
	<ul style="list-style-type: none"> • Consisting of windows based software with features such as multilevel calibration, baseline correction, all methods of analysis, time programming, plotting and graphical representation of chromatography • Software should be able to control the GC-MS system and date acquisition • the latest configuration of the computer with 2nd gen intel core I 3-2120 (3.30ghz 1333, 3 MB, 2C), genuine windows (R) 7 Home basic SP1 64

	bit, 4 GB3 DDR3 SD RAM (1600 Mhz), 3.5 — 1 TB 7200 RPM SATA Hard drive (1 X 500 GB), DVD Combo drive, 21 — colour monitor (TFT), optical mouse, keyboard, HP desk jet/ inkjet colour printer <ul style="list-style-type: none"> • the original equipment supplier/manufacturer should supply the total computer data station preloaded in the factory
	<ul style="list-style-type: none"> • ISO 9001 certification and GLP compliance.
	<ul style="list-style-type: none"> • Training- on-site training for 5 scientists should be provided for at least 10 days of operational training and 5 days of application training.

Item No. 3: Fourier Transform Infrared Spectrometer (FT-IR)

General Specifications:-

S No.	Specifications	
1.	Optics	All optics should be self-aligned for easy replacement by the user. Suitable high stability interferometer with a minimum 5 years warranty.
2.	Spectral range	Spectral range 375-7500 cm-1
3.	Spectral resolution	0.5 cm-1 or better (Non-apodized)
4.	Signal to noise ration	30000:1 or more PP for 1 min. Scan
5.	Fast scan	Minimum 30 spectra/sec or more @16cm-1
6.	Detector	DLaTGS /DTGS in KBr windows
7.	Source	A mid-IR source with a 5-year warranty should be provided.
8.	Beam splitter	KBr beam splitter or suitable beam splitter to cover the spectral range.
9.	Wave number accuracy	0.05 cm-1 or better.
10.	KBr pellet press-hydraulic pellet press capable of making KBr/NaI pellets with controlled pressure	
11.	The system should have the facility for liquid sample analysis.	
12.	The firm should offer micro/ Diamond ATR analytical facility.	
13.	Should offer Auto validation facility with the NIST/ASTM traceable validation kit.	
14.	Software	The latest version of windows based IR software with the licence to control all functions of the offered FT-IR system like the facility for self-diagnostic, software-controlled auto tuning, auto alignment, auto component recognition and auto-optimization data collection, data processing, live data display, spectral quality check, spectral search from the commercial library, creation of the user-generated library, automatic atmospheric correction, spectral interpretation, GLP compliance, QC.
15.	FTIR Library	Georgian crime library / Canadian Forensic Library or equivalent library.
16.	Spares/Consumables	The manufacturer/supplier should certify that they will provide all the spares and consumables at least seven years from the date of installation of the system.
17.	The firm should offer FTIR Installation kit, validation kit, spares parts for smooth running the system with necessary certification wherever applicable.	

18.	Data station	The latest version of branded PC like DELL/HP/ COMPAQ/ LENOVO/ IBM etc. Along with the licence of the original operating system and preloaded software with 21" LED monitor and laser jet colour printer.
19.	Three-year warranty of the full system should be provided.	
20.	The system/manufacture should be ISO/GLP/GMP/CE complied.	
21.	On-site operation and application training should be provided for 05 days for scientists.	
22.	The firm should supply tool kit, hard and soft copies of operation manual and other relevant literature software and other items wherever possible.	

Item No. 4 Accelerated Solvent Extraction System

General Specifications:-

1	Accelerated Solvent Extraction System complete with pump & fittings which provides operation for a single sample at a time with the following features & ease of uses in preparing/extracting sample.
2	Unattended extraction of up to 24 samples.
3	Samples cell sizes to be available: - 1, 5, 10, 22, 34, 66, and 100 ml.
4	Collection vial sizes: 60 or 250 ml.
5	Operating pressure: 1500 psi (100 bar).
6	Automatic rinsing of the system between sample extractions
7	Solvent saver mode for further reduction in solvent consumption
8	Scheduling programming for automated method optimization
9	It should reduce extraction time and solvent consumption by use of elevated temperature and pressure during extraction
10	The requirement of solvent less than 50 mL so to extract a 20gm sample; reducing total solvent usage
11	It should extract automatically to provide filtered and ready for direct injection or final cleanup sample of interest.
12	It should have options for Easy-to-use collection bottles or vials (vials with via tray insert)
13	It should have convenient multiple-method storage for automatic operation.
14	It is to come with convenient front panel operation runs methods automatically.

15	It should have Sensors for temperature, pressure, and solvent and liquid leaks alert the operator to a problem, sound an audible alarm, and shut down the system if necessary.
16	It should include solvent bottle, snap-ring pliers, power cords, and gas line fittings with the following specifications:
17	Temperature control: Up to 200 °C; vertical cell orientation with the flow from top to bottom.
18	Pump: Fluid delivery pressure: 10 Mpa (1500 psi).
19	Pump flow: 70 mL/minute. Automatic pressure sensor and pressure relief during heat-up.
20	Fluid Sensors: IR sensors detect fluid level during the collection of extract
21	Display and Keyboard: Menu operated. LCD 8 × 45 OR similar character display. Method and schedule editor and storage
22	Extraction Cells: Seven capacities: 1, 5, 10, 22, 34, 66, and 100 mL cells. Cells feature finger tight cell caps with compression seal for high-pressure closure
23	N2 cylinder with Suitable high-pressure regulator & tubing.
24	Automated sample extraction using flow-through technology with pH-hardened pathways
25	Automatic extract filtration
26	Easy-to-fill sample cells with the finger- or hand-tight fittings
27	Easy-to-use collection vials and bottles
28	Convenient front panel operation with multiple method storage
29	Sensors for temperature, pressure, and solvent vapours ensure safe operation at all times
30	Easy method transfers between systems
31	3KVA UPS with 60 minutes' backup

Item No. 5 Ion Chromatograph

General Specifications:-

1.	Pump System
	a. Binary/Quaternary pumps-02 units (for gradient flow) or any equivalent system suitable for simultaneous detection of cations & Anions. The system should be suitable for gradient flow.
	b. Flow rate:- 0.01-10ml/min or more.

	c. Reproducibility/Accuracy of flow-<0.1% or better
	d. Flow precision-0.1% or better
	e. Maximum pressure range-not less than 5000 psi
	f. Pump heads and all fluid path should be metal-free (PEEK) or any other good polymer suitable for analysis of anion and cations.)
	g. Online degasser or equivalent facility
	h. Leak sensor facility
2.	Injector Port System: Dual Rheodyne injector port (Metal-free, PEEK or any other good polymer) for simultaneous anions and cations analysis. The firm should offer adequate no of injection port for simultaneous anions and cations analysis for the offered system.
3.	Suppressor System: a. Chemical suppressor should eliminate background conductivity & increase the signal to noise ratio and with continuous regeneration/automatic regeneration or any equivalent technology delivering the same result. The operation should be automatic and should be able to withstand high backpressure and high loading or any equivalent suppressor system. b. The principal /manufacturer will submit an undertaking to supply the suppressor Kit for 7 years from the date of installation.
4.	Detector (Metal Free) Conductivity detector with cell: The firm should offer two (02) nos of detectors for simultaneous anions and cations analysis for the offered system. Conductance range: 0-15000 microsemens/cm. or better. Block should be thermostated (lower range-350C or more), Temperature stability +- 0.010 C Auto zero function should be present and should not control through software. The detector should be suitable to give results up to ppm level or better.
5.	The Quoted System (including column and guard column 2 Nos each type and any other consumables like connectors rings etc.) should be self-sustaining and capable of 38pprox.38g the following anions and cations simultaneously. Anions- Nitrate, Nitrite, Fluoride, Chloride, Sulfate, Bromide, Bromate, Phosphate, Perchlorate, Chlorate, Acetate, Formate Cations- Lithium, Sodium Potassium, Calcium, Ammonium, Barium.
6.	General Conditions
	a. The entire offered system for the simultaneous analysis of cations and anions through a single PC and integrated software. The firm should quote the latest version of the software.
	b. The product should be ISO 9001 certified /CE compliance
	c. Three years warranty of the full system will be provided.
7.	Data Station
	a. Consisting of windows based software with features such as multilevel calibration, baseline correction, all methods of analysis, time programming, plotting and graphical representation of chromatograph.

	b. The software should be able to control the ion chromatography system and data acquisition.
	c. The latest version of branded PC like DELL/HP/COMPAQ/LENOVO/IBM etc. along with the licence of original operating system and preloaded software with 21" LED monitor and laserjet printer.
	d. The original equipment supplier/manufacturer should supply the total computer/data station
8.	Training – At least 2 weeks of operational and application on-site training must be provided for 5 user scientists.

Item No. 6 Viscosity Meter and Density Meter

1. System

Instrument(s) should fulfil requirements of international standards. Viscosity and Density may get measured simultaneously from one instrument or may be measured separately by two instruments.

2. Sample

Hydrocarbon products, mainly petroleum products. Sample required should be 10 ml or less. Sample temperature should get controlled by built-in thermostat within the range of +15°C to +90 °C.

3. Measuring Range

Viscosity : 0.5 to 25,000 mPa.s (mm²/s)

Density : 0.65 to 2.5 g/cm³; Automatic bubble warning

➤ Display Resolution

- Viscosity: Four significant digits, Density: 0.0001 g/cm³, Thermostat: 0.001°C.

➤ Reproducibility:

- Viscosity: +0.50% of the measured value
- Density: +0.0001 g/cm³
- Temperature: +0.05 °C

4. Controls

Ten inch (10") or better touch screen, keyboard, mouse and bar code reader.

Interfaces: 2 x USB, 1 x Ethernet, 1 x CAN Bus, 1 x RS232 and 1 x VGA

Instrument(s) should have in-built Data Memory of at least 100 data sets.

At least four certified standards, each 100 ml or more, certified for Viscosity and Density at 20, 40, 60, and 80 °C should be part of standard delivery.

5. Training:

Training should be imparted for FSL West Bengal personnel for 3-5 working days on operation, maintenance and troubleshooting problems at the place of installation.

6. Warranty and AMC:

Should be for a period of at least 03 years with free upgrades of the software during the period. The supplier should undertake to execute AMC for 03years after warranty is over at the cost of not more than 10% of the cost of instrument which will be paid during the period of AMC.

7. Miscellaneous:

- Instrument(s) should be compact device for use in forensic lab and industrial environment.
- Vendor should have proven track record of supply/ installation in various Forensic Labs, Government Institutes.
- Vendor should have a service engineer stationed in Kolkata/ eastern region or preferably have a branch office for attending to problems, if any during the warranty/ AMC period.

Item No.7 Handheld Raman Spectrometer

1. General

- It should be handy and weigh less than 2 kg.
- Should be able to work continuously at temperatures +10 to +50°C.
- Should be of dust, water and shock proof rugged construction with compliance to international standards.
- Should have a battery life of more than 4 hours of continuous operation and charging time of not more than one hour.

2. Laser

- It should have outstanding user safety with no need for laser safety trainings or a laser safety program or any special laser safety requirements or special precautions like personal protective equipment.
- Laser Wavelength/ Max Power – 785 to 1075 nm/ 100 to 350mW
- It should come with adjustable laser power (Auto Mode) of 5, 10, 25, 50, 75, 100%

3. Spectral Requirements

- The instrument should have broad spectral range and provide for maximum unambiguous verification of materials.
- Spectral Library should include 1000+ reference Raman spectra for General Chemical, General Precursor, Cutting Agent, Explosives, Narcotic, Narcotic Precursor, Pharmaceutical, Solvent, Steroid etc. Custom libraries based on measured data are to be easily setup, anytime.
- Spectral Range – 200 to 3000 cm
- Spectral Resolution – 6 to 12 cm
- Spectrometer Type – Transmissive Volume Phase Grating

4. Software, Computer and other Accessories

- Suitable software with IT Act and rules compliance. Reputed Brand of PC with latest OS, touch screen monitor and LaserJet Printer with 5 KVA Online UPS with 30 minutes battery backup of latest model should be supplied.
- Connectivity to Desktop or Mobile Device through waterproof USB-Type C / Wi-Fi/ Peer-to-Peer

5. Warranty and AMC:

Should be for a period of at least 03 years with free upgrades of the software during the period. The supplier should undertake to execute AMC for 03years after warranty is over at the cost of not more than 10% of the cost of instrument which will be paid during the period of AMC.

6. Miscellaneous :

- Instrument should be compact device for use in field, forensic lab and industrial environment.
- Vendor should have proven track record of supply/ installation in various Forensic Labs, Government Institutes.
- Vendor should have a service engineer stationed in Kolkata/ eastern region or preferably have a branch office for attending to problems, if any during the warranty/ AMC period.

Item No. 8 High Performance Thin Layer Chromatography (HPTLC)

1. General

New generation complete system with system managed software for data acquisition, link, control, integrate, manage the individual instruments for application, development, scanning and image documentation.

2. Semi Automatic Spot / Band Applicator

- 5th Generation 4 mode Applicator for 1) Quantitative analysis 2) Micro-preparative chromatography 3) Superimpose 4) in-situ clean-up.
- Sample syringe – 100µl (for analytical work) 500µl (for micro preparative work).
- Sample position on X & Y axis freely selectable.
- Automatic rate of sample dispensing.
- Method of storage – built-in or infinite through system manager.
- Method of entry – Manual or download from System Manager.
- Self-diagnosis ability.

3. Chromatogram Development Chambers

- The operating range 20°C to 200°C
- Heating area: 240mm x 240 mm or equivalent
- An acoustic signal on defined time or requested temperature.
- Able to save 7 or more programs.
- High conductive heating surface with the large area of the heating element to ensure uniform temperature distribution.

4. TLC Plate Heater

- For in-situ derivatization and layer activation.
- Stain resistant glass top or equivalent.
- Digital display of set and actual temperatures as long as plate is hot.
- Use up to 200mm x 200mm size plates.

5. TLC Scanner with Data Evaluation

- System Manager controlled Scanner / Densitometer for automatic spectrum scanning for identity check as well as purity check;
- Automatic quantitative measurement by absorbance & fluorescence;
- Reproducibility of positioning better than 50µm in Y direction & 100µm in X direction.
- Scan speed 100mm/sec @ 25µm resolution or better;
- Wavelength range 200-1000 nm; bandwidth selectable 5 nm.
- Wavelength accuracy better than 1nm and reproducibility better than 0.2 nm.
- Monochromator flushing by nitrogen or equivalent;
- Data sampling rate 4000/sec or better;

- Macro optics for HPTLC;
- Apochromatic suprasil – fluorite lens system or equivalent;
- Spectrum scan speed 100 nm/sec or better;
- Max 999 spectra / plate;
- Scan compartment illumination with UV to check sample alignment with scan beam;
- D2, Hg, W lamps built-in.
- Excellent signal to noise ratio.

6. Manual Reagent Sprayer

- Glass reagent sprayer with spray head for ultra fine and uniform spray.
- 100 ml flask.

7. UV Cabinet

- UV Cabinet with facility of digital image transferrable to System Manager.
- Dual wavelength UV lamp with guaranteed minimum intensity at 15-20 cm distance
 - Short wave UV 1600 lumen, long wave UV 1000 lumen.
- Visible light
- Full protection to viewer's eyes and skin from UV light for safety.
- High tech 50 kHz power supply for flickerless, instant illumination.
- Portable darkroom.
- Auto switch off after set timing.
- Built-in thermal sensor and tilt sensor.

8. Software, Computer and other Accessories

HPTLC Software

- System manager software to link, control, integrate, manage the individual instruments for application, development, scanning and image documentation.
- To guide the user through chromatography steps.
- Built-in automatic back-up and restore tool for data.
- To produce a comprehensive GLP compliant analysis report with instrument, analyst, date, time, place, method parameters etc. and complete details. Random and unique report ID to be given to each report.
- Communicates in both directions with instruments.

Scanner Software

- Data evaluation software of latest version shall be provided.
- Controlled by System Manager, Automatic / Manual data integration, Auto baseline correction. Spot check facility.
- 3D display with data storage and auto calculation of each peak at its λ_{max} .
- Sub-component evaluation.
- Calibration - single level, multilevel, linear/non-linear.

- Track profile subtraction. Reproducibility check facility. Auto calculation of data from wts and dil. Factors.
- Computer generated random number for each report.
- Lamp use tracking.
- User manual.
- Service Dialog + Self-Diagnostics + Tutorial all built-in.
- Software should have –
 - a) Spectrum Scanning option
 - b) Scanner Quantification
 - c) Scanner Multi Wavelength

Spectrum Library

Around 1000 spectra stored with search facility for λ max as well as Rf should be available for narcotic, toxicological and other forensic use. Facility to create own library.

Hardware

Reputed Brand of PC with suitable OS and LaserJet Printer with 5 KVA Online UPS with 30 minutes battery backup of latest model should be supplied.

9. Training:

Training should be imparted for FSL West Bengal personnel on operation, maintenance and troubleshooting problems at the place of installation.

10. Warranty and AMC:

Should be for a period of at least 03 years with free upgrades of the software during the period. The supplier should undertake to execute AMC for 03years after warranty is over at the cost of not more than 10% of the cost of instrument which will be paid during the period of AMC.

12. Miscellaneous :

- The system must be factory tested and a certificate should be provided.
- Vendor should have proven track record of supply/ installation in various Forensic Labs, Government Institutes.
- Vendor should have a service engineer stationed in Kolkata/ eastern region or preferably have a branch office for attending to problems, if any during the warranty/ AMC period.

Item No.9 Bench-Top Digital Centrifuge Apparatus

1. General Specifications

- The centrifuge should be versatile having multiple rotor options such as swing out, micro or high volume angled rotors;
- It should have a large splash-proof LCD display, motor-driven lid lock and a maintenance-free induction drive;

- It should have an automatic radio-frequency rotor identification system (RFID) with over speed protection, immediately upon rotor insertion;
- The control panel should be easy to use even with gloves on, allow one-hand operation;
- The centrifuge should allow selection of speed in both rpm and g-force, with increments of 10 and pre-selection of running time from 10 seconds to 100 hours or continuous;
- Speed Range 200 to 15,000 rpm
- The display should show pre-set & actual values, temperature and quick-key for short runs;
- It should give an audible signal at the end of each run with several melody options;
- The device should allow storage of up to 100 runs including rotor type;
- Noise level under 65 dB at maximum speed;
- The device should have been manufactured according to international safety regulations;
- The centrifuge should be supplied with a fixed angle rotor.

2. Warranty and AMC:

Should be for a period of at least 03 years with free upgrades of the software during the period. The supplier should undertake to execute AMC for 03 years after warranty is over at the cost of not more than 10% of the cost of instrument which will be paid during the period of AMC.

3. Miscellaneous :

- Instrument should be compact device for use in field, forensic lab and industrial environment.
- Vendor should have proven track record of supply/ installation in various Forensic Labs, Government Institutes.
- Vendor should have a service engineer stationed in Kolkata/ eastern region or preferably have a branch office for attending to problems, if any during the warranty/ AMC period.