BID REFERENCE: NITD/CHEMISTRY/DST-FIST/2016-17/01 (2nd Call); dt. 31.01.2017

2nd call in reference to Tender for **supply and installation of GC-MS with accessories** under "DST-FIST Grant" for the Department of Chemistry, NIT Durgapur

All the specification and terms and condition will be same as in **BID REFERENCE**: NITD/CHEMISTRY/DST-FIST/2016-17/01; dt.12.12.2016 and subsequent corrigendum.

Last date of submission of tender: 21.02.2017 by 3:00 pm in the Department of Chemistry, NIT Durgapur

Date of opening: 21.02.2017 at 3.30 pm in the Department of Chemistry, NIT Durgapur

Those who have already submitted tenders (in reference to **BID REFERENCE**: NITD/CHEMISTRY/DST-FIST/2016-17/01; dt.12.12.2016) need not to re-submit, provided they are not willing to modify their submitted tender any further.

NATIONAL INSTITUTE OF TECHNOLOGY, DURGAPUR

MAHATMA GANDHI AVENUE
DURGAPUR –713 209, WEST BENGAL, INDIA
FAX: 0343-2574078; Website: www.nitdgp.ac.in; Telephones: + **91-9434788124**

BID REFERENCE: NITD/CHEMISTRY/DST-FIST/2016-17/01 **Date: 12.12.2016**

To
_____

_____

Dear Sir,

SUB: Invitation for quotations for supply and installation of GC-MS with accessories under "DST-FIST Grant"

1. You are invited to submit your most competitive quotation for the listed items of as per **Annexure–II**. For each item, please quote separately in separate envelope superscripted with ITEM Name. Price bid form as per Annexure-I must be filled with complete numerical values. Please note that each item will include sub-items.

2. **Bid Price (Annexure-I)**
   a) The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re-writing.
   b) All duties, taxes and other levies payable by the contractor under the contract shall be included in the total price **F.O.R. NIT Durgapur**.
   c) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
   d) The bid price may be quoted in **Indian Rupees or in foreign currency (F.O.R. Dept. of Chemistry. NIT Durgapur).**

3. Each bidder shall submit only one quotation for each item. Manufacturer/authorized dealers of reputed brands of high technical quality with adequate after-sales support facilities are eligible to apply. The bidder must have supplied similar good to reputed organization to their full satisfaction and furnish a list of the same.

4. **The bid submitted by the bidder must comprise the following:**

Part – I (Techno-commercial Bid)

(a) Detailed technical specifications, conforming to the given specifications (vide Annexure – II), and literature /drawings /manuals of the goods/services are to supply.
(b) Authorized dealership certificate from the original manufacturer
(c) Credentials and list of organizations where the bidder supplied similar items
(d) Satisfaction certificates (in original letterhead) of users of same instrument working in IITs/ NITs/IISERS/ CSIR Labs/ Central Universities/ Universities of West Bengal/ IACS/ Bose Institute/IIEST
(e) Warranty period (3 year comprehensive on-site)
(f) Valid sales-tax / VAT clearance certificate

Part – II (Price Bid)

(g) Price bid as per Annexure-I

5. **Validity of Quotation**
Quotation shall remain valid for a period not less than 60 days after the deadline date specified for submission.

6. **Evaluation of Quotations**
The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e.
(a) which are properly signed and

(b) conform to the terms and conditions, and specifications.

(c) The quotations will be evaluated considering the cost of all items except optional accessories and including tax thereon. Price of each optional accessory need to be quoted separately.

7. Award of contract

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive, technologically acceptable and who has offered the lowest evaluated quotation price.

7.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

7.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

8. Delivery shall be made at **Department of Chemistry, NIT, Durgapur.**

9. Payment shall be made immediately within 30 days after satisfactory installation, commissioning and successful demonstration of the good.

10. Comprehensive onsite warranty shall be applicable to the supplied goods for a period of **36 months** from the date of installation.

11. The Institute is **exempted from payment of custom and excise duty** on items mentioned below:
    a) Scientific and technical instruments, apparatus, equipment (including computers)
    b) Accessories, spare parts and consumables thereof
    c) Computer software, CD-ROM, recorded magnetic tapes, microfilms, and microchips.

12. Settlement of any dispute will be made under the jurisdiction of The successful bidder must submit before the release of payment a valid bank guarantee on any nationalized bank of **10%** of the order value towards **Performance Security** during the warranty period.

13. **Liquidated Damage** will be applicable at the rate of **0.5%** per week. The purchaser has the right to cancel the purchase order when LD accumulates to 10 %.

14. A bank draft of **Rs 200** towards the Bid document price payable to "**FIST CHEMISTRY**" at Durgapur will be enclosed with the bid by the bidder.

15. A bank draft or bank guarantee worth **2%** of the quoted value payable to "**FIST CHEMISTRY**". The EMD shall remain valid for a period of 45 days beyond the final bid validity period.

16. Quotations are to be submitted **in two separate sealed covers** marked PART-**I** (Techno-commercial bid) and **PART-II** (Price bid) containing relevant documents, superscripting "**Bid No. NITD/CHEMISTRY/DST-FIST/2016-17/01**". These two sealed covers are to be placed in a separately sealed larger cover. Further, the sentence '**Not to be opened before 15.30 hours on 19.01.2017'** is also to be put on these envelopes.

17. Settlement of any dispute will be made under the jurisdiction of Durgapur Court.

18. You are requested to provide your offer latest by 15.00 hours on January 19, 2017.

19. The purchaser will open the bids at 15.30 hours on January 19, 2017 in the HOD office of Chemistry Department, NIT Durgapur.

20. The bid document must be signed and sealed and enclosed with the bid as a token of acceptance of all terms and conditions in the bid document by the bidder.

21. The items must be delivered within **45 days** from the date of placement of purchase order at the respective department.

22. All other terms and conditions of GFR 2005 of the Government of India will be applicable.

23. **Place of Delivery: Dept. of Chemistry, NIT Durgapur**.

24. **Installation / commissioning / demonstration requirement: Installation, commissioning, complete demonstration and successful running at Dept. of Chemistry, NIT, Durgapur.**

25. **The technical bid and the price bid must be enclosed in separate envelopes properly sealed by the bidder, and submitted both the aforesaid envelops inside a cover sealed envelope failure of which may lead to cancellation of the bid by the tender committee.**

We look forward to receiving your quotations and thank you for your interest in this

Head, Chemistry Department

The bid must be addressed to:

Dr. Milan Maji
Head, Department of Chemistry
NIT, Durgapur -713209, W.B.
Telephones: + 91-9434788124

Annexure – I

PRICE BID

1	2	3	4		5	6	7	8
Sl. No	Name of the good	Quantity & Unit	Price for each unit		Unit Price	Sales tax/ VAT & other taxes payable [admissible only on col. 4(a)]	Total Unit Price	Total Unit Price (in words)
			Ex-factory/ ex-warehouse/ ex-showroom/ off the shelf (a)	Incidental Services (b)	(a)+(b)		(5)+(6)	

Annexure–II

Specification of GC-MS system to be procured under DST – FIST program:

GC system general	(i) GC with electronically Advanced/Electronic/Programmable flow control technology for simultaneous pressure, temperature and flow programming (ii) Graphical user interface with LCD display (iii) capable of accommodating capillary and packed columns (iv) capable of accommodating narrow bore (0.1mm internal diameter) to wide bore (0.52 mm internal diameter) capillary column (v) Flow or pressure set points for each inlet or detector parameter should be from GC control panel and software. (vii) Use of Helium or Hydrogen as a carrier Gas. (viii) capable of supporting three detectors
Column Oven	(i) Should have an operating range of four degrees above ambient to 450 °C; (ii) Maximum Heating Rate: 120 °C/min or higher (iii) Maximum Number of ramps : 15 or higher (iv) Retention time repeatability: <0.0017 or better (v) Temperature accuracy: +/- 1% (vi) Oven cooling speed: 450^0C to 50^0C within 4 minute or better
Injector	Installable: at least two
Split/splitless injector	(i) capillary Split/splitless injector suitable for capillary column of 0.1mm to 0.52 mm internal diameter with septum purge function (ii) Maximum operating temperature: 400^0C or higher (iii) split ratio: 7500: 1 or better (iv) Pressure range: 0 – 140 psi (v) Capable of operating in efficient gas saver mode to reduce gas consumption during standby without affecting performance.
Column	(i) SP-2380 or equivalent low bleed capillary column for GCMS of dimension L x I.D.= 30 m (or, 25 m) x 0.25mm having stationary phase matrix active group : Stabilized; poly(90% biscyanopropyl/10% cyanopropylphenyl siloxane) phase supplied with column inlet and outlet nuts and ferrules (iii) low bleed capillary column for GCMS with (50% cyanopropyl)-methylpolysiloxane as stationary phase (length = 30 m or 25 m) supplied with column inlet and outlet nuts and ferrules (iii) low bleed capillary coumn for GCMS low polarity column having 1% or 5% phenylsiloxane and 99/95% methyl siloxane as stationary phase supplied with column inlet and outlet nuts and ferrules
Flame Ionization Detector	(i) Wide range Flame Ionization Detector for GC with auto ignition facility (ii) Minimum detection limit: 1.5 pg C/s or better (iii) Dynamic Range > 10^7 (iv) The FID nozzle should be of inert material
Thermal Conductivity Detector (TCD):	(i) Temperature range: 400°C (ii) Sensitivity: 20000 mV · mL/mg (decane) (iii) Dynamic range: 10 (iv) Suitable for analyzing gases of concentration up to 10 ppm
Mass spectrometer	(i) Electron ionization ion source (ii) Capable of up gradation to chemical ionization (both positive and negative ionization mode) (iii) Easy access to Ion Source for easy maintenance. (iv) Filament: Dual with improved filament lifetime and effective regulation of

	emission current across the available emission current range (iv) The User definable electron energy should be adjustable from 0-150 eV or more (v) The GC transfer line temperature should be programmable up to 350 °C or more. (vi) Ionization current: 5 – 250 µA or higher (vii) Ion source temperature: user selectable temperature set from 140 ^{0}C to 300 ^{0}C or Higher (viii) Ion source should be able to be cleaned without breaking vacuum (viii) EI source should be inert to active compounds and should be programmable
Mass Detector (Analyzer)	(i) Metal quadrupole (ii) Mass range: 1.5 to 1000 m/z mor higher (iii) Ionization current: 5 – 250 µA or higher (iii) Resolution: Unit mass resolution maintained over the entire mass range or better (iv) minimum measurement interval: 70 scan/s or higher (v) Scan speed/scan rate: 20000 µ/s (vi) Detector: Electron multiplier (vii) Sensitivity: S/N ≥ 1500: 1 for the entire mass range (viii) international safety standards, designed and manufactured under a quality system registered to ISO or equivalent
Installation Checkout criteria	(i) In EI mode 1µL of 1 pg/µL octafluronapthalene m/z 272 will produce S/N ≥ 1500: 1 when He is used as carrier gas (ii) EI SIM IDL: ≤ 10 fg (m/z 272) for 100 fg of octafluronapthalene injection
Vacuum system for MS	(i) Evacuation System Control: Fully automatic Turbo Molecular pump (ii) Fully automatic turning on and turning off of turbo molecular pump, and leak valves. (iii) Turbo molecular pump with capacity of 300 L/sec or higher or, Turbo molecular pump with differential exhaust system of capacity 190 L/sec/170 L/Sec or higher
Library for MS system	Latest version of NIST databases (including original CD) with license number from manufacturer.
Compatible MS probe	A probe having facility to inject sample which allows a sample (both solid and liquid) to be introduced directly into the MS ion source at high temperature without injecting the sample through a GC column and GC separation. This system should have the following features: I. Quick, simple method for sample introduction directly in mass spectrometer source II. Accurate analysis of highly polar, thermally labile solid or liquid compounds III.Compatible with all modes of ionization and mass analysis IV. Switch to probe in within a few minutes keeping GC interface undisturbed
Other accessories:	(i) UPS system: 10 KVA with SMF batteries and isolation transformer suitable for at least one hour back up facility (ii) one each of filled hydrogen, nitrogen, zero air and helium gas cylinder each of 47 liter water capacity . Purity of the gases must be compatible with the GCMS analysis (iii) one double stage gas regulators for gas cylinders of each kind (v) Gas panel for removal of moisture, oxygen, hydrocarbon and other impurities if present in the gas to be used in GCMS system with necessary tubing, nuts and ferrules to achieve suitable purification of gases to be used for GCMS system. (vi) 10µL GC syringe: 4 Nos. (vii) One gas tight syringe for analysis of gases and volatile matter through GCMS
Computer and software to run the GCMS instrument	(i) Branded computer with branded UPS(1.1KV) and laserjet printer (Black and white) installed software for running the GCMS (ii) The computer should have proper connection with the GCMS instrument for smooth running

	(ii) With Intel core i5 or better processor (iv) RAM: 8 GB or higher (v) Operating system: Windows 7 or higher version (vi) Hard Disk: 500 GB or higher (vii) DVD ROM with writer (viii) LAN: Ethernet I/F (100BASE – TX / 10 BASE – T) (ix) Display: Branded 23" LED colour monitor for an easy viewing (x) Branded USB Keyboard and mouse
Control Software for GCMS system:	(i) The GCMS/GC should be supplied with original licensed software for data acquisition, analysis & control through PC. The control software should be latest in all aspects & compatible with the supplied Windows operating system (ii) It should be productivity boosting & designed to match advance features of latest GCMS systems. (iii) It should have sequence based data storage & retrieve functions. (iv) It should provide extensive capabilities for analysis of large amounts of high-precision data with a navigation toolbar for easy access to chromatographic data. (v) It should have consistent & secure storage of data, methods & sequences. (v) The control software should have very good data review & reprocessing capabilities using navigation tables. (vi) Complete Software control of vacuum system with Auto Start-up / Shut-down and vacuum protection against Power Failures. (vii) Flexible report Format i.e for Method, chromatogram, Mass Spectrum, Peak table, Quantitation result, calibration curve, Status Log , texts, graphics. (viii) Software should have Security, Audit trail , System check , Software integrity and system Suitability test included as standard functions. (ix) All software & database shall be quoted with appropriate part numbers & description only. No pirated copies of any software or database shall be accepted. (x) the system should have the facility to ex[ort the report file including chromatogram and mass spectrum to Microsoft office
Other requirements:	(i) All the necessary calibrants of GC-MS to be provided. (ii) Consumable spare parts for five years (the list at least include source filaments – 20 Nos, Source Heater – 20 Nos, Injection port glass liners – 10 Nos, GC Septum – 200 Nos, Column inlet/outlet nuts – 10 each, inlet/interface ferrules – 20 each, source insulator, vacuum oil (5 times the oil capacity of turbo molecular pump). (iv) Vendor should assure the availability of the spares for 10 years from date of installation. (v) Vendor should provide extensive onsite and offsite training at accredited laboratory as well as application support for optimum use of equipment. (vi) Documentation: All the manuals like operation, service, and maintenance with all electronics circuit diagram to be provided. • (vii) All specifications offered Needs to be supported with original literature as well as • the same literature needs to be available in the website of the manufacturing • company • (viii) The offer to be made in details with all technical specification , item details with • part nos (Only line items will not be accepted) (ix) **All supporting technical literatures complying the technical specification need to be attached** (vii) If there is any up-gradation of software within the period of warranty then the same should be provided free of cost by the supplier/manufacturer. (viii) Instrument must be attended within one week in case of breakdown. (ix) Vendor should provide the list of users with their telephone numbers, complete address.

	(x)Original copy of certificate of satisfaction from at least two users in letter head should be provided (xi) Warranty: three Years Comprehensive Warranty must be provided in order to keep system in continuous working conditions. (Xii) GCMS system should be designed and manufactured under international safety standard or under ISO9001 with the availability of declaration of conformity
Optional Accessories (Price of individual item should be quoted separately)	(i) One Thermal Conductivity Detector (TCD) having following features: Temperature range: 400°C Sensitivity: 20000 mV · mL/mg (decane) Dynamic range: 10 Suitable for analyzing gases of concentration up to 10 ppm (ii)) One molsieve gas separation capillary column having dimension: 30m x 0.320mm x 12.0µm supplied with column inlet and outlet nuts and ferrules (iii) One Electron Capture Detector compatible with the GCMS instrument preferably with the following features: I. Temperature Range: up to 350^0 C II. Minimum Detected Quantity (Sensitivity): 6 fg/s (or better) III. Dynamic Range: 10^4 or better (iv) One auto Injector with 8 or more number vials capacity which can be upgraded in future to Auto sampler (v) one each of filled hydrogen, nitrogen, zero air and helium gas cylinder each of 47 liter water capacity . (vi) DB-1701 or equivalent having stationary phase 14% Cyanopropylphenyl 86% dimethylpolysiloxane with following features ID (mm) 0.18 – 0.32 mm Length (m) 10 – 60 m Film (µm) 0.15 – 1.00 µm Temperature Limits (°C) –20 – 280/300 °C (vii) DB-17 ms – or equivalent column having stationary phase (50%-Phenyl)-methylpolysiloxane having following features Capillary ID (mm) 0.18 – 0.32 mm Length (m) 15 – 60 m Film (µm) 0.15 - 0.25 µm Temperature Limits (°C) 40 – 320/340 °C

Corrigendum for GCMS specification (Dept. of Chemistry, NIT Dugapur)

BID REFERENCE: NITD/CHEMISTRY/DST-FIST/2016-17/01 Date: 12.12.2016

1. **The 'Thermal Conductivity Detector' mentioned in the 7th row should not be considered as essential item.** TCD should only be considered as one of the optional accessories, as mentioned in 18th row of the table for the GCMS.

2. The (ii) point of 2nd column of 17th row of the table to be changed/modified as

"Consumable spare parts for five years (the list at least include Injection port glass liners – 10 Nos, GC Septum – 200 Nos, Column inlet/outlet nuts – 10 each, inlet/interface ferrules – 20 each, source insulator, vacuum oil (5 times the oil capacity of turbo molecular pump)"

in place of

"Consumable spare parts for five years (the list at least include source filaments – 20 Nos, Source Heater – 20 Nos, Injection port glass liners – 10 Nos, GC Septum – 200 Nos, Column inlet/outlet nuts – 10 each, inlet/interface ferrules – 20 each, source insulator, vacuum oil (5 times the oil capacity of turbo molecular pump)".

3. The following spare parts will be included in the optional accessories and should be read as (viii) point in the 2nd column of 18th row of the table:

Source filament: 6 Nos.
Packed column injector
Packed column adaptor