NATIONAL INSTITUTE OF TECHNOLOGY, DURGAPUR

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BID REFERENCE: NITD/CHEMICAL/DST-SUPERFLUID/2017-18/01 Sl. No.01 **Date: 04.05.2017**

To

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Dear Sir,

SUB : Invitation for quotations for supply and installation of Instruments/ Equipment for DST-sponsored project "**Process Intensification of Biodiesel Synthesis from Non-edible Oil via Superheated Propanol Injection Technique**" as specified in **annexure-II**.

1. You are invited to submit your most competitive quotation for the listed items of instruments/equipment 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. **No separate quotations are required for 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 must be quoted in **Indian Rupees.**

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

(a) Detailed technical specifications, conforming to the given specifications (vide Annexure – I), and literature /drawings /manuals of the goods/services to be supplied

(b) Authorized dealership certificate from the original manufacturer

(c) Credentials and list of organizations where the bidder supplied similar items

(d) Warranty period (3 year comprehensive on-site)

(e) Valid sales-tax / VAT clearance certificate

(f) Price bid as per Annexure-I

(g) Quotations are to be submitted in three separate sealed covers marked PART-I (Techno-commercial bid) and PART-II (Price bid) and PART-III (Bank Draft or Bank guarantee against security deposit) containing relevant documents, superscripting the Bid No. These three sealed covers are to be placed in a separately sealed larger cover.

4. **Validity of Quotation**

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

5. **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.

6. 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 Not withstanding 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 Chemical Engineering at NIT, Durgapur.**
9. Payment shall be made immediately within 30 days after satisfactory installation, commissioning and acceptance of the good.
10. 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.

11. 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. Else, 90% of the payment will be released retaining 10% of the order value towards Performance Security during the warranty period.
12. **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 %.
13. A bank draft or bank guarantee worth 2% of the quoted value payable to **"DST-SUPERFLUID PROJECT"** at Durgapur will be enclosed with the bid by the bidder towards the **Earnest Money Deposit (EMD).** The EMD shall remain valid for a period of **90 days**.
14. Settlement of any dispute will be made under the jurisdiction of Durgapur Court.
15. You are requested to provide your offer latest by 11.00 hours on **May 18, 2017**
16. The purchaser will open the technical bids (no price bids) at 11.30 hours on **May 18, 2017** in the seminar room of Chemical Engg Department
17. 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.
18. The items must be delivered within **60 days** from the date of placement of purchase order at the respective department.
19. Comprehensive onsite warranty for **12 months** from the date of satisfactory installation shall be applicable for offered goods.
20. AMC : 1 Year after expiry of Warranty of 1 year
21. All other terms and conditions of GFR 2005 of the Government of India will be application.
22. **Place of Delivery: Dept. of Chemical Engineering, NIT Durgapur**.
23. **Installation / commissioning / demonstration requirement: Installation, commissioning, complete demonstration and successful running at Dept. of Chemical Engineering, NIT, Durgapur**

I look forward to receiving your quotations and thank you for your interest in this project.

The bid must be addressed to:

Dr. Gopinath Halder
Principal Investigator
Department of Chemical Engineering
NIT, Durgapur -713209, W.B.
E-mail: gopinath_haldar@yahoo.co.in / gopinathhaldar@gmail.com; Website: www.nitdgp.ac.in
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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-factor/ ex-warehouse/ ex-showroom/ off the shelf (a)	Incidental Services (b)	(a)+(b)		(5)+(6)	

List of Laboratory Instruments

GAS CHROMATOGRAPH CONTAINING FID WITH NECESSARY ACCESSORIES

Sl nos	Name of the Instrument	Specifications	Quantity
01.	**PC CONTROLLED DUAL CHANNEL GAS CHROMATOGRAPH CONTAINING FID WITH NECESSARY ACCESSORIES**	**GAS CHROMATOGRAPH CONTAINING FLAME IONIZATION DETECTOR (FID) WITH ACCESSORIES** • The System must be compact, versatile, high performance • Should be software driven, easy to operate, step by step method development, injection sequence, calibration and reporting facility • Should be able to mount at least two injection ports and two detectors at same time • Retention time repeatability: 0.06%, • Peak area repeatability: < 2% • The gas pressure should be EPC controlled and accurately regulated down to 0.01psi • Power supply: 220-240V, 50Hz • System should have safety and regulatory certification / safety standards from recognized bodies like Canadian Standards Association (CSA) Nationally Recognized Test Laboratory (NRTL) International Electrotechnical Commission (IEC) Euro Norm (EN) Electromagnetic compatibility (EMC) Radio frequency Interference (RFI) conformity Designed and manufactured under a ISO. • EPC Modules/ EPC Channels: Must be able to install EPC on both inlets and detectors • Should have facility to include Automatic Liquid Sampler (ALS) with minimum16 sample vials capacity as and when required **Oven:** • Operating temperature maximum 425 °C • Temperature set point resolution 1 °C • Maximum temperature ramp rate 75 °C/min or better • Temperature programming ramps : 5 • Ambient rejection < 0.01 °C per 1 °C **Inlets :** Split/splitless capillary inlet (S/SL) • Electronic pressure/flow control • Maximum operating temperature: 400 °C • Total flow range SSL : Must be able to set total flow range: 0 to 200 mL/min N_2 ; 0 to 500 mL/min H_2 or He • Pressure range 0 to 60 psi • Maximum split ratio 250:1	01

		Detector: Flame Ionization Detector (FID) • Electronic pressure/flow control • Maximum operating temperature: 425 °C • MDL: < 3 pg carbon/s as tridecane • Linear dynamic range: > 10^7 range • Data acquisition rate : 100 Hz **Others:** • Branded PC with LaserJet colour printer along with latest processor and RAM with suitable software having following features: ➢ Control GC parameters ➢ Setting up chromatographic method ➢ Input the sample information ➢ Display of setting parameters for system verification ➢ Transferring of validated parameters to the instrument, perform injections of standards and samples. ➢ Data acquisition, data processing and saving chromatogram • Suitable installation tool kit including snoop, nuts, ferrules, screw driver, wrench, tubing cutter, flow meter, copper tubing, etc, must be provided. • Capillary column of 25 to 30 M length with 5% phenyl methyl polysiloxane phase • Modern and best Capillary column available for the analysis of FAME & TG (Triacylglycerol) derived from oleaginous biomass. • Syringes for liquid samples : 1 ul and 5 ul **Compulsory accessories:** • Appropriate SERVO Stabilizer • Zero Air, N_2 and H_2 gases with cylinders, regulators and traps to run the GC. • Chilled dust free environment **Optional** • Auto injector system 16 vials or more **Requirement** • Standard and reagents for FAME (50 Nos Samples) analysis must be provided • Demonstration and tutorial training upto 10 samples and hands on training till satisfactory understanding	