Guru GhasidasVishwavidyalaya
(A Central University) Koni, Bilaspur, 495009 (C.G.) India
Website: www.new.ggu.ac.in Phone: 07752-, 260381, 8889254445 FAX: 07752-260154, 260148

Tender Ref. No 05/ EQUIPMENT/DST-FIST PROJECT/BOTANY/STORE/GGV/2024, DATE: 23/09/2024

E-TENDER FOR DST-FIST PROJECT (BOTANY)

Reference Number	05/ EQUIPMENT/DST-FIST (BOTANY)
Name of Work	"Equipment Purchase" for DST-FIST Project, Botany, Guru Ghasidas Vishwavidyalaya Campus, Bilaspur. (C.G.)
Tender Fees (Non-Refundable)	Rs. 5,000/- (In form of DD)
Earnest Money Deposit	Rs. 4,50,000/- (In form of DD & FDR)
Tender Documents	Available Online in Both www.new.ggu.ac.in & https://eprocure.gov.in/eprocure/app
Last Date of Online Submission of e-Tender	14/10/2024 upto 03:00 PM
Technical Bid Opening Date	15/10/2024 upto 04:00 PM
Financial Bid Opening Date	Financial bid for the technically qualified bidders will be opened online.

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E-Tender

FOR THE SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF EQUIPMENT'S UNDER DST-FIST PROJECT, BOTANY

Guru Ghasidas Vishwavidyalaya, invites "E-Tender" from the reputed firms for the supply, installation, testing and commissioning of equipment's under DST-FIST project, Botany. Tender document may be downloaded from the websites:- www.new.ggu.ac.in or https://eprocure.gov.in/eprocure. The soft copies of the duly filled format, scanned copy of signed tender and relevant documents, DD of tender cost and EMD shall be uploaded on the website www.eprocure.gov.in. However, sealed envelope containing original DD of the tender fee Rs. 5,000/- (Non-refundable) and TDR/FDR of the EMD of Rs. 4,50,000/- addressed to the OSD Store Section, Guru Ghasidas Vishwavidyalaya, Koni, Bilaspur, C.G.-495009, should reach up to 03:00 PM on or before 14/10/2024. The technical bid shall be opened online 15/10/2024 at 4:00 PM.

The University is not responsible for any delay in receiving the documents in hard/soft copies. GGV reserves all the right to accept/reject any or all tender without assigning any reason in favor of university.

SALIENT DATES

1 Last Date of submission (Online) :	14/10/2024 up to 03:00 PM
2. Last Date of submission (Hard copy) : Bid Fee Rs 5,000/-(Original)(scanned copy to be uploaded online also) EMD Rs. 4,50,000/-(Original) (scanned copy to be uploaded online also)	14/10/2024 up to 03:00 PM
3. Opening of Technical Bid	15/10/2024 up to 04:00 PM
4. Financial Bid* (as per BoQ in e-tender submitted online only)	Financial bid for the technically qualified bidders will be opened online.

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1. Mode of Payment of Tender Cost and EMD:

Tender fee and EMD must be submitted in original before the scheduled last date through speed post/registered post/courier service to the OSD (Store), Guru Ghasidas Vishwavidyalaya, Bilaspur 495009 (C.G). The scanned copies of Tender fee and EMD are to be uploaded on-line in eprocure.gov.in.

1.1 Tender Cost

Tender cost of Rs 5,000 (non-refundable) should be in the form of DD in favour of "Registrar, Guru Ghasidas Vishwavidyalaya", payable at Bilaspur (C.G), from any nationalized bank.

1.2 Earnest money deposit (EMD)

An EMD of Rs. 4,50,000/- (refundable as per terms & condition of the tender) should be in the form of TDR/FDR in favour of "Registrar, Guru Ghasidas Vishwavidyalaya", payable at Bilaspur (C.G), from any nationalized bank.

The following shall be noted related to EMD:

- The EMD (without any interest) for all those bidders who are found not eligible shallbe returned back to the bidder through registered post/speed post/Courier Service.
- The EMD without any interest shall be refunded / returned to technically not qualified
- No exemption from depositing the EMD shall be allowed to any participating bidder.However, GOI norms/rules/Standards/orders may be applicable.
- Validity of EMD shall be six months from the last due date of submission of E-Tender.
- The earnest money deposit (EMD) shall not carry any interest.
- EMD shall be forfeited in the following cases:
  - If any information or document furnished by the bidder turns out to be misleading or forged in any material respect; and if the successful bidder fails to execute the contract/ agreement within the stipulated time or any extension thereof provided by GGV.

2. Essential Eligibility Criteria for the bidder:

The bidder should fulfill the following Eligibility criteria for participating in this Tender: (Regarding the eligibility criteria, the bidder has to submit the filled in format as per annexure I, Annexure I-A to I-D and Annexure III)

2.1 The bidding firm should have minimum 05 years of experience in dealing with Major equipment in last consecutive 03 years as mentioned in this tender. Purchase Order and Satisfaction/completion letter from the concerned Organization should be submitted (as applicable). The firm should have no adverse complaint or

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blacklisted by any government/semi-govt./govt. financed dept./ PSU/corporation as buyer or (Annexure- I-A)

2.2 CA Certified turnover certificate for 03 financial years (F.Y. 2021-22, F.Y. 2022-23, F.Y. 2023-24) with a minimum average annual turnover of Rs. 100 Lakhs, along with gross profit statement without any loss. (Annexure "I-B" must be filled along with CA certified audited balance sheet for last three FY).

2.3 Bidder should possess statutory requirement such as PAN, GST, Shop-Establishment Registration for their existing businesses setup. (Annexure- I-C)

2.4 If the bidder is not a manufacturer/Principal company (OEM), then the bidder must have a valid authorization certificate issued from the OEM. (Annexure- I-D must be filled in)

2.5 The bidder must submit an affidavit on non-judicial stamp paper of Rs.100/- stating that they are agree for one time relocation of the four instruments without any extra charges as when required by the concern department (Annexure: I-E):

Eligibility Criteria for Bidders Clause 2.0						
Clause no. 2.0	Annexure	Criteria satisfied by The bidder Yes/no	Document / certificate attached in support Yes/no	Give the relevant page no In the bid document submitted by the bidder		Remarks
				From	To	
2.1	I-A					
2.2	I-B					
2.3	I-C					
2.4	I-D					
2.5	1-E					

3. DISQUALIFICATION:

The bid may be cancelled/partially accepted/rejected/not evaluated if any of the following is observed by the technical committee of GGV.

1. If any of the eligibility criteria (as per clause-2) is not fulfilled by the bidder

2. If the hard copies of the desired documents including Tender fee (original) and EMD (original)/Exemption document are not received to the store section of the university, within the stipulated time through speed/registered post or courier service only.

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3. If the bid is conditional or incomplete.

4. If the desired relevant documents (Scanned copy of DD of Tender Cost, DD/FDR of EMD, and other certified documents) in support of the information furnished in this tender are not uploaded online.

5. If the tender document is altered or tampered in any manner

6. If duly signed copy of the desired Annexure I (I-A to I-D), undertaking (Annexure III), checklist and relevant certificates are not attached with the on-line technical bid.

7. If at any stage during and after evaluation of the technical bid and even after agreement and award of the work the bid/agreement of any such bidder will be rejected/not evaluated/cancelled, it is found that the information/documents furnished by the bidder is false/untrue/fabricated/tampered etc.

8. If the bidding firm has been blacklisted/debarred by any government/semi-government/PSU organizations or any legal proceedings regarding malpractice is ongoing against the bidding firm or the firm was found guilty for such malpractices earlier.

9. If the bidder attempts to influence any member of the committee of GGV during and after the tendering process.

10. If the bidder claims any other charges for the supply over and above the Quoted rate in the tender, except the prevailing taxes imposed by the Government.

4. RIGHTS OF THE UNIVERSITY:

The University reserves (without assigning any reason, whatsoever) the right to:

- Accept or reject any or all bids for this tender at any stage.
- Amend the selection process at any stage, if situation so warrants.
- Interpret any clause, modify/alter and amend the provisions of this tender or any other document issued at any stage of selection.
- Amend the scope of work.
- Debar the bidder, if during the process of selection or later at any stage, it is found or discovered that bidder has/ had provided incorrect/misleading information or material mis-representation or concealment of information sought by the GGV.
- Close the process/cancel the invitation/ tender notice at any stage.

5. Downloading of the E-Tender:

The bid document consisting of scope of work and the set of terms and conditions of the contract to be complied with and other necessary documents may be seen and downloaded from websites www.new.ggu.ac.in or https://eprocure.gov.in/eprocure/app

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6. Submission of the Bids: Part-A

6.1 TECHNICAL BID: Following duly signed documents are to be submitted by the bidder:

6.1.1 Soft copies to be uploaded in the CPP Portal e-procure.gov.in:

a. All relevant certificates, undertakings, documentary evidence in support of the information furnished by the bidder.

b. Signed and scanned copies of Tender Cost and EMD.

c. Signed copy of the tender document without any alteration.

6.1.2 Online (soft copy) Bid Submission

a. The bid document consisting of scope of work and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from websites www.new.ggu.ac.in or https://eprocure.gov.in/eprocure/app.

b. Bidder must be registered on the website https://eprocure.gov.in/eprocure/app for uploading the soft copy of the bid.

c. The interested tenderer(s) must read the terms and conditions of this Tender carefully. Firm should only submit the bid if eligible, and should possess all the documents required.

d. Bidder should upload documents in the format available on the website https://eprocure.gov.in/eprocure/app.

e. Bidder must upload the Tender documents on the e-Tendering website www.eprocure.gov.in. The scanned copy of demand draft for Bid Cost (Non- refundable) and demand draft of Earnest Money Deposit (EMD) in pdf format. All two files should be uploaded in one file named "Bid Cost_EMD_E-Tender Fee_Name of Bidder.pdf" within the period of bid submission.

f. Bidders must upload their tender on the e-Tendering website www.eprocure.gov.in. The scanned copy of the bid documents Technical (in pdf format) and Financial Bids (as per format available on the website www.eprocure.gov.in) within the period of bid submission.

g. First pdf file titled "Technical Bid _Name of Bidder must have all required documents related to Technical Bid.

h. Second file (as per the format available on the website www.eprocure.gov.in) titled "Financial Bid Name of Bidder" must have the Financial Bid.

i. The Technical bid file must contain the scanned copies of duly signed tender document/format, certified copies of documents related to Eligibility Criteria, all relevant information and documents of turnover, net profit (after tax), experience, ongoing work, documents relevant for evaluating the bidder technically, Corrigendum / Addendum / Other documents, if any, etc. as per the attached annexure (except annexure II). The technical bid will be opened only for those firms whose tender fees and EMD will be received in original within scheduled date and time.

j. The bidders are required to upload and submit page of (Audited) summarized balance sheet /summarized Profit & Loss Account for last 03 years (F.Y. 2021-22, F.Y. 2022-23, F.Y. 2023-24).

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k. Bidder must ensure to quote rate in the Financial Bid as per Annexure-II. (The rate shall be quoted up to 2 Decimals).

l. If any cell is left blank and no rate is quoted by the tenderer, rate of such item shall be treated as "0" (ZERO).

m. Information and Instructions for tenderers uploaded on websites shall form part of bid document.

n. The bidders are advised to submit complete details with their bids. The Technical Bid Evaluation will be done on the basis of documents submitted/uploaded on e- tendering website(s) by the bidders with the bids. The information should be submitted in the prescribed Performa. Bids with Incomplete/Ambiguous information will be rejected.

o. Online technical bid documents submitted by intending tenderers shall be opened only of those tenderers, whose Earnest Money Deposit, Cost of Bid Document and other documents placed in the envelope are found in order. GGV reserves all the rights to reject the bid, if three envelopes do contain relevant information with regard to the content of the envelope.

p. Before the scheduled last date and time of submission of bid as notified, the tenderer can submit their revised bid any number of times indicating the relevant details on the concerned envelope.

q. On opening date and time, the bidder may login to see the bid opening process.

r. The tenderer may submit their queries (if any), through E-mail (storesectionggv2021@gmail.com) and in writing to the Registrar, Guru Ghasidas Vishwavidyalaya, Koni, Bilaspur, 495009 (C.G.) to seek clarifications regarding the tender submission etc. GGV will reply only those queries which are essentially required for submission of bids. GGV will not reply the queries which can be implied /found in the tender documents or which are not relevant or in contravention to tender documents.

6.1.3 Hard copy (Tender fee and EMD) to be submitted in a sealed envelope to the "OSD (Store), Guru Ghasidas Vishwvisdyalaya, Koni Bilaspuer (C.G.) 495009:

6.2. Financial bid:

Financial bid is to be submitted online only, to be uploaded on https://eprocure.gov.in/eprocure/app the BoQ (format as per annexure II). The offered price of any item in Tender, is to be quoted (online only) by the bidder in the above BoQ. No additional charges for packing, forwarding, loading, unloading, transit insurance etc. except the government taxes shall be payable to the vendor.

7. Opening and Evaluation of the Bid:

The bids shall be opened on-line for only those bidders who successfully submit the desired Tender Cost, EMD in original in hard &soft copy in a sealed envelope on or before the scheduled last date & time to the store section of the University.

The bid is invited under two stages (three packets system); accordingly, the stage wise bids shall be opened online. On scheduled date the technical bids shall be downloaded and further evaluated as per the eligibility criteria (clause-2) etc. as per the condition of this Tender.

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The financial bids of technically qualified bidders shall be opened on-line as per the date decided and uploaded in the e-procure.gov.in and ggu.ac.in sites.

8. Technical Specifications of Equipment As per Schedule: I-V

Schedule – I: Atomic Absorption Spectrophotometer

Schedule – II: Fermenter Specification

Schedule – III: Gas Chromatography- Mass Spectrometer (GC-MS)

Schedule – IV: Trinocular Stereo Zoom Microscope with camera and Screen

9. GENERAL TERMS AND CONDITIONS OF TENDER:

9.1 Quoted Price of each item should remain firm during the supply duration.

9.2 **The price must be including GST as per GOI Rules and one time relocation without extra charges for each instrument. An affidavit for the above must be submitted only on non-judicial stamp paper of Rs.100/-.**

9.3 The specifications and quantity are detailed in the clause 8 (Schedule I-IV).

9.4 University reserves the right to increase or decrease the quantity or delete some or all of items depending on the needs of the university. The Bidder has to supply the desired items as per purchase order with the same price as quoted in the bid.

9.5 The award of the contract may be decided on the basis of quoted rates, Quality of Product, experiences & past performance of the Bidder etc. as desired in this tender. The decision of the University in this regard shall be final and binding on the bidders.

9.6 The terms & conditions of this Tender shall remain valid till the expiry of the successful supply up to the warranty period.

9.7 Any change in statutory levies during the period of Tender shall be paid extra against documentary proof for such changes, if legally livable and should be intimated within 3 weeks from the receipt of supply order.

9.8 Bidder/Supplier will not supply the items under Tender, on a rate, lesser than our Tender prices to any other Govt. institution. If the same is found, then proportionate recoveries will be made from bidder/supplier authorized dealer.

9.9 The vendors/firms should be registered with GST Authorities.

9.10 Bidder must submit certificate of registration as manufacturer/ authorized supplier (as applicable) along with the bid.

9.11 Authorized dealer / distributor of a company has to submit a copy of their latest dealership/ distributorship certificate. The vendors shall be eligible for the supply only upto the validity of such certificate during the Tender period.

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9.12 Price should be for delivery at Guru Ghasidas Vishwavidyalaya Campus, Bilaspur (CG). No additional cost in any manner shall be borne by the university for supply, installation, demonstration etc.

9.13 Number of vendors may be multiple for any one principal company, subject to the fulfillment of other requirement as desired in this Tender. University has all the rights reserved to negotiate with other bidder if it finds suitable for proper and smooth supply.

9.14 Prices charged for the items supplied under Tender should under no event be higher than lowest prices at which the party sells the items of identical description to any other Govt. organization during the period of contract failing which the "FALL CLAUSE" will be applicable. A certificate to this effect may be provided by the firm that the lowest prices have been offered to Guru Ghasidas Vishwavidyalaya. In case it is found that the price changed by the firm are more, the same will be recovered from the subsequent/unpaid bill of the supplier.

9.15 If the bidder has experience of supplying the similar items as sought in this tender then the relevant work order/ experience certificate for such supplies issued from the Government academic / research institutions/Organization should be attached with the bid as their credential & documentary evidences.

9.16 University reserves the right to carry out a technical inspection and performance evaluation (benchmarking) of the offers made by shortlisted vendors. The shortlisted vendors may be asked to come and give out presentation / demonstration.

9.17 The items, so supplied will have to be of desired quality& grade. The same if not found in order then the supplied goods may be rejected on the expenses of the vendor and also appropriate penalty for wrong supply may be imposed on the vender by the university Items of inferior quality, are to be replaced by the vendor at their own cost within the stipulated period, failing which the purchase order of the firm will be cancelled. Delayed supply / non-compliance of complete order may also lead to appropriate penalty.

9.18 University will create a shortlist of technically qualifying vendors and the financial tender of only these vendors will be opened online.

9.19 University reserves the right to decide whether the items being quoted are as per the requirement of the university and are of standard/leading brands in the market. University reserves the right to decide which offer best suits the requirement of the university. Further, after opening financial tenders of the short-listed tenders, if there is a discrepancy between word and figure, the amount indicated in words will prevail.

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9.20 The Cost of the equipment should be exclusive of GST but inclusive of all other statutory levies. Labor, installation charges, packing, transporting, forwarding, transit insurance, loading/unloading, commissioning, demonstration (at desired location), freight etc.

9.21 Payment shall be made only after satisfactory acceptance of the item. by the user department. No advance/part payment shall be made/entertained in any occasion.by the university.

9.22 The firm is bound to supply all the items if approved by the university and accordingly purchase order has been issued to the successful bidder. Failing which the EMD may be partially/fully forfeited by the university.

9.23 Financial bid is to be submitted online only, to be uploaded on www.eprocure.gov.in the BoQ (format as per annexure II).

9.24 Performance Guarantee (PG) /Security Deposit (SD): PG/SD for an amount of 5% of the order value have to be furnished in the form of an Account payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from a Commercial bank in an acceptable format by the successful tenderer. Performance Guarantee is to be furnished along with the invoice after before or supply the supply and it should remain valid for a period of 60 days beyond the date of completion of all obligations by the vendor, including warranty (five year) obligation.

9.25 Warranty: Comprehensive on-site warranty (as applicable) shall be applicable to the supplied goods for a period of 60 months for all manufacturing defects from the date of satisfactory installation, commissioning and acceptance by the user department of GGV.

9.26 Bidder may contact Store section, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) for any clarification or information regarding the Tender. E-Mail: storesectionggv2021@gmail.com.

9.27 The delivery of goods will be taken at the risk and cost of the supplier from railway/ transport and university will not be held responsible for any such matter.

9.28 The supply of material will have to be completed within stipulated time given in the purchase order. The liquidated charges @0.5% per week shall be imposed if supply made after stipulated delivery period subject to maximum 10% of the total value of goods/ contract value.

9.29 In case supply of material requires more than stipulated time, the supplier must apply in writing and seek permission of extension, on valid ground, at least one week before the last date of expiry stipulated foe supply. The University reserves all the rights to grant any extension in last date for the supply on valid grounds or may deny for granting any extension.

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9.30 The supply order will depend upon the requirement and recommendation furnished by the user department/PI and availability of the fund with GGV. The quantity of items may or may not change.

9.31 The firm has to supply the required items as per unit price mentioned in the BoQ.

9.32 Supply should be made in full against the Purchase order and shortage will be procured from any other source on the risk and cost of the supplier. Partial supply may not be accepted by the university.

9.33 No. Payment will be made for unsatisfactory items supplied by the vendor.

9.34 The articles should be securely packed to avoid damages etc. in transit. Tampered and damaged items will not be acceptable.

9.35 Delivery: The delivery should be given at GGV, Bilaspur, C.G. No delivery, packing charges, load, unloading charges will be paid extra by the University.

9.36 Supply should be made from the latest batch of production with the maximum life period & original packing.

9.37 The bills ought to be submitted in triplicate, in the name of the Registrar, GGV, Bilaspur. The bill/invoice (with valid GST No.) must possess the bank details (Account No. Bank Name, IFSC Code etc), and the university purchase Order No.

9.38 Earnest Money Deposit: (EMD) of Rs. 4,50,000/- should be submitted in the form of Account Payee Demand Draft/Fixed Deposit Receipt of any of the Nationalized Banks drawn in favour of Registrar, GGV, Bilaspur (C.G) along with Tender.

9.39 Sale Tax/GST: The rate of sale Tax/ GST should be mentioned clearly.

9.40 Each page of the Tender document and annexure if any, should be signed by the tenderers failing which tender may not be considered.

9.41 Offer validity period: The offer validity of goods should hold a period of 180 days from the date of opening of the financial bid. Any offer falling short of the validity period is liable for rejection with appropriate penalty including forfeiting of EMD/ SD

9.42 The dispute arising between Vendor and the GGV will be referred to Arbitrator as per government of India norms.

9.43 Fall Clause: The following Fall clause will form part of the contract–

(i) The price charged for the services and stores supplied under the contract by the Bidder/firm shall in no event exceed the lowest prices at which the Bidder / firm sells the stores and services or offer to sell stores and services of identical

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description to any persons/Organization including the purchaser or any department of the Central government or any Department of state government or any statutory undertaking the central or state government as the case may be during the period till performance of all supply Orders placed during the currency of the rate contract is completed.

(ii) If at any time, during the said period the Successful Bidder reduces the sale price, sells or offer to sell such stores and services to any person/organization including the University or any Dept. of Central Govt. or any Department of the State Government or any Statutory undertaking of the Central or state Government as the case may be at a price lower than the price chargeable under the contract, the Bidder/Firm shall forthwith notify such reduction or sale or offer of sale to the University and the price payable under the contract for the stores of such reduction of sale or offer of the sale shall stand correspondingly reduced.

9.44 Force Majeure

(i) Neither the Firm/Contractor nor the Client shall be considered as defaulting in the Performance of their obligations under this Agreement, as long as such performance is prevented or delayed, for reason, beyond the reasonable Control of the party claiming the existences of Force Majeure such as Acts of God, severe earthquake, cyclone (expect monsoon), floods, lighting, land slide, fire or explosions, plague or epidemics, strikes, lockouts (lasting more than 14 consecutive calendar days), sabotage, blockade, war riots, invasion, acts of foreign enemies, hostilities (whether war be declared or not), civil war, rebellion, insurrection or military usurped power or confiscation or trade embargoes or destruction of requisition by order of any Government or any Public Authority. The party claiming the existence of Force Majeure shall within ten days or within shortest possible period without delay, as the case may be, notify the other party about the occurrence of the Force Majeure event and provide the other details of arising ceasing of the impediment. At the end of the impediment, the party claiming the existence of Force Majeure shall provide necessary documental proof of cessation.

(ii) As soon as the cause of Force Majeure has got removed, the party whose ability to perform its obligations has been affected shall notify the other of such cessation and of

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the actual delay incurred in such affected activity, including necessary evidence in support thereof. From the date of occurrence of a case of Force Majeure, obligations of the party affected shall be suspended during the continuance of Force Majeure Conditions and any liability so caused until the case itself and the inability so caused resulting there from have been removed, the agreed time of completion of the respective obligations under this contract shall stand extended by a period equal to the period of delay occasioned by such events.

(iii) Should one or both the parties be prevented from fulfilling the contractual obligations by state of Force Majeure lasting continuously for a period of six months, the parties shall consult each other regarding the future implementation of the Project.

9.45 Resolution of disputes (Arbitration and laws): In case of any dispute or difference arising out of or in connection with the Tender conditions/order and contract, the GGV and the tenderer will address the dispute/difference for a mutual resolution and failing which, the matter shall be referred for arbitration to a sole arbitrator to be appointed by GGV. The arbitration shall be held in accordance with the provisions of the arbitration and conciliation act 1996 and the venue of arbitration shall be at Bilaspur (C.G.) only. The resolution of the arbitrator shall be final and binding on both the parties.

9.46 Jurisdiction: the courts at Bilaspur (C.G.) alone will have the jurisdiction to try any matter, dispute or reference between parties arising out of this Tender/contract (later). It is specifically agreed that no Court outside and other than Bilaspur (CG) court shall have jurisdiction in the matter.

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Annexure I
TECHNICAL INFORMATION
(Tenderer may use separate sheet wherever required)

Sl. No	Details of the firm/bidder	Detail to be Furnished by the firm/bidder	Page number in the tender document
1	Name and address of the Bidder		
2	e-mail id, Mobile No. and land line No. of the bidding firm		
3	State clearly whether it is Sole proprietor or Partnership firm or a company or a Government Department or a Public Sector Organization (attach relevant document in support)		
4	Whether the firm is registered under company Act 1956? If yes, enclose certified copies as documentary evidence: In case firm is registered with other Govt. Deptt./Agency/CFIs., the same may be stated with documentary evidence.		
5	Bank Detail of the Bidder: Name of Bank: Full address of Bank: Account No.: IFSC of Bank:		
6	Details of the Tender Cost DD No.: Dated: Drawn on Bank: Amount: Rs.5,000		

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7	Details of the Earnest Money Deposit (EMD) DD. No.: Dated: Drawn on Bank: Amount: Rs 4,50,000/-		
8	Attach duly certified copy current price list issued by the manufacturer (hard & soft Copy)		
9	Price Justification Certificate: Bidders are required to provide a certificate in this regard that that the discount offered on the printed price is equal to or more than the discount offered to any other organization for the current price list (kindly submit the certificate (as per annexure I - .E)		
10	Copy of Income Tax Return for last 3 years (attach CA certified(copies)		
11	Attach the tender document and its annexure (duly signed and stamped by the bidder) Note: It is mandatory to sign each and every page of the documents including the tender format and are to attached /submitted along with the technical bid.		
12	Quality Assurance certificate (to be submitted by the bidder that the quoted products are of acceptable Standards & Purity), Please specify the product quality.		
13	Any other information, if the bidder wishes to furnish in order to strengthen its candidature as supplier under rate contract.		
14	Undertaking as per annexure (as per Annexure-III)		

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ANNEXURE –I-A

BIDDERS EXPERIENCE

Year	Details of supply orders executed by the bidding firm to other organization (PO.No, Installation, Completion certificate issue date etc)	Name, Address & Type of organization	Page No of documents attached in this Bid

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ANNEXURE-I-B

Turn Over& Gross Profit Statement of the Bidding firm

	Turn Over (Rs. in Lakh)	Turn Over in Average (Rs. Lakh)	Gross Profit (Rs. in Lakh)	Gross Profit in Average (Rs. in Lakh)
2021-22				
2022-23				
2023-24				

Note: CA Certified copy of the audited balance sheet for the information as furnished above must be attached with the technical bid.

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ANNEXURE- I-C

Statutory Information:

Sno	Description	Details to be furnished by the Bidder	Page No Bid	Attach all the certified copies of the documents in support
1	PAN card			
2	GST registration			
3	Shop/Establishment Registration			

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ANNEXURE-I-D

AUTHORIZATION Certificate Statement

(To be submitted only if the bidder is not a manufacturer for the item quoted in this Tender)

To,
The Registrar, GGV Bilaspur (C.G) 495009.

Subject: Authorization Certificate Statement
Reference: Authorization Certificate issued by the manufacturer vide no ……

Dear sir,

I hereby submit the certified copy of the authorization certificate issued by the principle manufacturing company as detailed under. the certificates are valid as desired in the Tender. I have gone through the clause no and other relevant condition of this Tender.

SN	ITEM	Name of the manufacturer	Address of the manufacturer	Certificate reference No issued by the principal manufacturer	Date of issue	valid upto

Yours faithfully,

[Signature with date, name and designation]

For and on behalf of M/S. ……..
[Name & address of the manufacturers]

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Annexure I-E

Acceptance for One time Free of Cost Relocation

Tender No.:

I/We

M/s……..……certify that the firm agrees with terms and conditions of one-time relocation of the instrument (Name of Instrument:……) supplied to the Department of Botany, Ghasidas Vishwavidyalaya, Bilaspur without any extra charges.

The firm M/s…….. shall bear all expenses that will be required during relocation and will take the following during the relocation:

- Installing the instrument in the new location and verifying performance,
- Ensuring all connections to the instrument are proper and secured,
- Setting up network environment in the new location (if applicable)
- Configuring the instrument software,
- Performing Preventative Maintenance procedure and verifying all alignments,
- Performing proper calibration for the instrument.

SIGNATURE AND STAMP OF THE BIDDER

The above certificate must be submitted only on non-judicial stamp paper of Rs.100/-.

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Annexure II

FINANCIAL BID (BoQ)

After opening of technical bid, the capability and suitability of the bidders shall be evaluated on the basis of their technical bid. Financial Bid of the technically qualified bidder shall be opened online

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ANNEXURE III
DECLARATION

1. I, ……..…….. Son /Daughter of Shri …….…… Proprietor/Partner/Director/Authorized Signatory of the bidding firm M/s. ……...…… and I am competent to sign this declaration and execute this Tender document.

2. I have carefully read and understood all the terms and conditions of the Tender and I hereby convey my acceptance and compliance of the same.

3. The information/ documents furnished along with this Bid application are true and authentic to the best of my knowledge and belief.

4. I/ we am/ are well aware of the fact that furnishing of any false information/ fabricated document would lead to rejection of my bid at any stage besides liabilities towards prosecution under appropriate law, and my EMD may also be forfeited.

5. My/Our firm is neither blacklisted by any Government Department/PSUs/PSEs nor is any Criminal Case registered against the firm or its owner or partners or directors anywhere in India.

6. I/We have read and understood all the terms and conditions and are acceptable to the

firm. I/we will obey/comply/abide by all the terms and conditions of this Tender, if thecontract is awarded to my firm.

7. Total number of pages (including signed copy of Tender documents) being submitted in this bid is ……

Dated: ……

Name & Designation ……..…….

Signature of Bidder ……

Note :

1. The above declaration, duly signed and sealed by the authorized signatory of the firm/company, should be enclosed with the Tender document.
2. Certificate as per above must be submitted only on non-judicial stamp paper of Rs.100/-.

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CHECK – LIST

Details		Complied /attached Yes/No	Page Number	Compiled/ N ot-Compiled
Envelope I(online And Offline)				
1	DD of the Bid cost/fee of Rs 5000/- (non-refundable) has been kept in original in Envelope-I along with the DD of EMD as below. Also, the scanned copy of the above DD has been uploaded in the e-procure site along with the e-tender documents.			
2	FDR/TDR of the EMD of Rs 4,50,000/- (non-refundable) has been kept in original in Envelope-I along with the FDR/TDR of Tender cost/fee as above. Also the scanned copy of the above FDR/TDR has been uploaded in the e-procure site along with the e-tender documents			
Envelope-II (online Only) (Attach the duly signed copies of the following along with relevant supporting documents as detailed in the tender)				
1	Weather bidder has read and signed each page of the tender documents and enclosed in original of the same along with the technical bid documents in Envelope-II. Weather bidder has read and signed each page of tender documents and uploaded the scanned copy of the same along with the technical bid documents.			
2	Annexure I (in desired format) is attached by the bidder.			
3	Annexure I-A (in desired format) is attached by the bidder.			
4	Annexure I-B (in desired format) is attached by the bidder.			
5	Annexure I-C (in desired format) is attached by the bidder.			
6	Annexure I-D (in desired format) is attached by the bidder.			
7	Annexure I-E (in desired format) is attached by the bidder.			
8	Annexure III (in desired format) is attached by the bidder.			
Financial Bid upload online as per annexure -II (online only)				

DATE: ……

Name & Designation: ……

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SCHEDULE – I:
Technical Specification for Atomic Absorption Spectrophotometer

Sr. No	Description	Tender Specification
1.	General :	Optical Double-Beam system with Facility of automated changeover from Flame to future Graphite Furnace upgradation to avoid any mechanical movement of the set up while changing from flame to furnace mode (Including Auto sampler of GF) (Simultaneously) Future Ready Graphite furnace upgradation.
2.	Optics	• Wavelength range: 185 to 900nm or better • Variable band width: 0.2 to 1.0 nm spectral bandwidths or better • Monochromator: Monochromator and prism or Grating with 18001ines/mm blazed at 240nm or so with Reciprocal linear dispersion: 1.6 nm/mm or better • Sensitivity: Minimum absorbance of >0.9Abs for 5ppm Cu (Copper) • Reciprocal Linear Dispersion 0.5 nm/mm at 200 nm • Spectral bandpass of 0.1, 0.2, 0.5 or 1.0 nm should be automatically selectable • Reciprocal Linear dispersion 0.5nm/mm or better • No. Of lamps mount: Minimum 6 or more • Background Correction: High intensity D2 for flame as well as Zeeman with Graphite Furnace back ground correction • Burner height: Automatic optimization of burner height • Fuel Flow: Automatic optimization of fuel flow • Detector: PMT [Photomultiplier tube] OR Solid State Detector (CMOS) • Titanium or inert Burner or better. • The burner height is to be automatically optimize
3.	Other Features :	• Flame ignition-Automatic. • Nebulizer chamber- An inert fluoroplastic spray chamber or equivalent. • Automatic gas control system. • Safety measures: Software controlled, automatic oxidant changeover. Software controlled, automatic fuel gas boost on oxidant changeover. Automatic flame shut down. Fuel line flashback arrestor etc. • Suitable air compressor should be there Graphite Furnace Atomization • Integrated Zeeman background correction. • Monochromator :Echelle type • Suitable Air Compressor to be supplied of Internationally Reputed Brand • Single Elements for : Fe, Mn, Mg, Cr, Co, Mb, Ni, Ar, B, etc. all coded hollow cathode lamps to carry a 5000 mA/hr lifetime guarantee or better • Continuous Flow /Flow injection/Automated hydride Vapor Generator for analysis of As, Se, Hg etc. It should come with an integrated controller & four channel peristaltic pump. • Suitable Branded Desktop Computer with original software loaded. AAS software for automatic analysis, parameter setting, concentration computation, baseline correction, report generation. QA/AC data logging, etc

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4.	**AUTOMATED HYDRIDE GENERATOR:**	• Continuous Flow /Flow injection/Automated hydride Vapour Generator for analysis of As, Se, Hg, Pb etc. • It should come with an integrated controller & four channel peristaltic pump.
5.	**Graphite Furnace Atomization:**	• Integrated Zeeman furnace and auto-sampler with pre-aligned tilt mount • Graphite Furnace Atomization: It should be fully automated with constant temperature Zone, permanently fixed to the furnace work-head or with unique swing arm mount, involving auto alignment in optical path. Furnace work-head should be of titanium for corrosion resistant, end windows of quartz to allow high light transmission, graphite tube should be pyrolytically coated. Working temperature range up to 3000°C or better with proper heating rate. There should be at least the following safety interlocks involving inert gas pressure, cooling gas pressure, its temperature, presence of graphite tube and transformer temperature. Suitable camera for capturing high definition images of events inside the graphite furnace cuvette, allowing monitoring of the sample injection and behavior is desired • Auto sampler for furnace. The auto-sampler to accommodate up to 60 samples in the large carousel • Hydride Generation System (for elements such as As and Hg) having the facility of continuous flow vapour with minimum of four channel peristaltic pump and operates automatically under data station control • Data Coded single element Hollow Cathode Lamp (HCL) for 30 elements: as per the application • Consumables and spares including 100 nos. graphite tubes for graphite furnace along with one service manual and one operation manual. • Furnace TV or Vision System should be standards along with the system
6.	**Local Supplies:**	• Suitable compatible branded desktop computer with latest configuration (i5 or better with ≥21'' Monitor, UPS) and licensed software (OS, Office, antivirus etc.) along with compatible laser jet printer. • Laser Jet (A-4 size) Printer • Acetylene Filled Cylinder for AAS analysis (UHP Grade) filled with gases, with necessary Tubing & Connectors -2 No. • Nitrous Oxide Filled Gas Cylinder for AAS application filled with gases, with necessary Tubing & Connectors. -2No. • Argon Filled Cylinder for AAS analysis (UHP Grade) filled with gases, with necessary Tubing & Connectors. -2No. • Double Stage Gas Regulators for Acetylene Gas Cylinder -1 No. • Double Stage Gas Regulators for Argon Gas Cylinder -1 No. • Double Stage Gas Regulators for Nitrous Oxide with heater -1 No • Stainless Steel Double Mood with Exhaust fan including necessary fitting and Ducting Facility -1 set. • Gas Distribution Line for Ar • Certified Standard solution for AAS (1000 PPM) (each bottle of 100 ml.) multi element standard. • Cylinders may require to be kept in a separate room form the instrument. The supplier should carry out all the necessary pipe fittings to properly run

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		the instrument at their end following standard safety protocols. Warranty for this will run concurrently with the instruments and costs will be included in the main offer. • The equipment should be provided with all necessary accessories and spare parts to run without hindrance. • The system should be suited to Indian system of electrical inputs (230V/ 50Hz). • To be supplied with Branded 15KVa UPS with 30 minutes power backup with IGBT Based. • Warranty of all items will strictly be applicable from the date of installation for the entire installation. Warranty of minimum five years must be provided. The bidder should quote for only those equipment for which hardware, software and spare parts support will be available in next minimum 7 years. • There should be minimum 5 installations of the instrument in Indian Public Sector or CGIAR research institutes. The list should be provided. • It should comply with international safety and quality standards (ISO and CE) and valid documents in support of this must be submitted.
7.	**Warranty and Others Terms**	• Five year's on-site warranty • Training: 5 days extensive training for 2 persons at installation site or another reputed institute • Site Preparation including gas line: By bidders • Compliance certificate from principals should be provided • The offer needs to be accompanied with all required supporting technical literatures, any regulatory Certificate of the manufacturing works • Authorization certificate of the Principal Companies, details of service facilities available with the contact nos. • Ensure the break up prices of all components • International ISO & CE Certificate for the manufacturer. • Specifications should be available on the bidder website.

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SCHEDULE – II
Technical Specification for FERMENTER

The system should be a compact autoclavable fermenter design for growth of (1) Cell / Bacteria, fungus (2) Filamentous/ non- filamentous cells (3) Plant Cells. Batch, Fed batch and continuous modes operation will be possible. Controllers should be capable of running either fermentation. The system should be supplied with 3 fixed speed peristaltic pumps. The system Platinum RTD probe for temperature sensing, PID/PLC Control for heating and cooling. The system agitation through magnetically coupled drive. The agitation range and control from 50 - 1,000 RPM.

TECHNICAL SPECIFICATIONS:

Vessel	:	Borosilicate Glass Vessel
Removable Baffles	:	Stainless steel 304
Total volume	:	5 Liters
Working volume	:	3 Liters

Working conditions:

Max. Working pressure (vessel)	:	3 bar
Maximum working temperature of Vessel	:	150°C
Fermentation temperature	:	5°C above ambient to 80°C

Material of Construction:

All parts in contact with the product	:	SS 316L
Vessel head plate	:	SS 316L
'O' Rings	:	Silicone

Surface treatment:

Parts in contact with the product	:	Polished to grain 220
All other parts in stainless steel	:	SS 304 Pickled
Parts in M.S	:	Powder coated

1.1. FERMENTER PORTS / CONNECTIONS:

The top plate of vessel is provided with following ports:

- 1No. Antifoam Inlet port
- 1No. Inoculum port
- 1No. Nutrient port
- 1No. pH electrode port
- 1No. DO electrode port
- 1No. Agitator port
- 1No. Air inlet port
- 1No. Exhaust port
- 1No. Antifoam Probe connection
- 1No. Sampling port
- 1No. Acid inlet port
- 1No. Alkali inlet port

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1.2. AGITATOR DRIVE:

The Top / Bottom drive unit is a SERVO/PMDC motor. The power transmission is by means of Mechanical Seal /Magnetic Coupling.

Electric Motor	: PMDC motor / Servo Motor
Power	: 0.25 hp
RPM Range	: 100-1000 RPM

The RPM of the motor is indicated on the control panel.

2. RUSTON BLADE STIRRER:

This stirrer system is useful for viscous substrate or for fermentation in which there is a viscous phase. The Ruston blade stirrer also has the advantage in that it can be used for mycelia which should not be destroyed. The air feed for this stirrer system is usually up to 1 VVM. The maximum RPM of this stirrer system is between 100 and 1000 RPM. For fungal fermentation the blade stirrer is run at a low speed.

The Ruston stirrer has 6 bladed 3 impellers which can be fixed along with the main shaft at different levels. The diameter of the impeller is normally 1/3 of the vessel diameter.

To prevent rotation of the liquid four baffles are provided inside the vessel which are removable. For all stirrer systems, there are different air sparger tubes. When using the blade stirrer, the sparger is mounted below the lowest turbine in a ring shape.

The Ruston blade stirrer consists of:

- Main shaft with 6 bladed 3 Ruston impellers which can be varied in position along with the shaft
- Baffles x 3 No. made of SS 316

Agitation Consists of:

- DC Motor
- Magnetic Coupling
- Agitator shaft

Speed range 100-1000 RPM ± 5 RPM control accuracy

3. AERATION:

The pressure and amount of air can be pre-set with a pressure reducing valve with pressure gauge and the needle valve. On the Rotameter the amount of air passing, is controlled and indicated. After the Rota meter air passes through the sterile filter into the fermenter sparger. The air sparger system is constructed to give maximum distribution of air in the fermenter.

The sterile filter used should be of “Membrane” type. This filter has the great advantage that it can be sterilized with autoclave/steam repeatedly. For a good operation of the sterile air filter, a pre-filter should be used if the steam and air are dirty. The air exhaust from the fermenter passes through the air outlet filter into the atmosphere.

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The Aeration system consists of:

- 1 Pressure regulator
- 1 Air inlet filter
- 1 Air outlet filter
- 1 Exhaust condenser
- 1 Air Sparger ring type
- 1 Harvesting/ Sampling valve
- 1 Rotameters (0-10 lpm)

5. CONTROL PANEL:

HMI-PLC-SCADA CONTROL SYSTEM:
The control panel also contains powerful touch PID/PLC/PLC with amplifiers, controllers, & switches for the parameters which are to be measured or controlled. The instruments are housed in 19" rack and the cabinet is electrically wired and shipped in ready condition. This provides integrated process parameters in each fermenter.

The control panel consists of: 19" standard rack.
Wiring and mounting of the amplifiers, controllers, PID/PLC/PLC screen lamps and switches of the parameters which are measured or controlled.

Windows based SCADA Software with following facilities.
All the instruments are tested & supplied in to use condition.
System has connectivity for 1 to 3 bioreactor control for time & event-based profiling.

SCADA Software will have the following

- Process trend display.
- Graphical view of process & storage of events
- Data can be retrieved through LAN
- Data logging can be done for infinite time.
- Printing of graphs & data can be reported.
- Remote set point can be set
- Real time P & I diagram can be viewed.

Flexible Software Management:
Data logging is very relevant process information. It is made easy by our customized SCADA software with variety of other important features

HMI Features:

- 4.3" touch screen.
- Two serial ports to connect PLC / printer/ programming port.
- Multilanguage (Universal) support with windows fonts.
- Direct connection to most controller families including modbus RTU.
- Up to 65535 user definable screens (full size) or pop-up windows (partial size).
- Real time operation.
- Wizards for raPID/PLC application development of standard bitmapped objects.

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- Real time and historical alarms.
- Data logging.
- Recipes support.
- Windows based programming software.
- IP65 design CE/UL certification.

5. TEMPERATURE CONTROL:

The temperature in the Fermenter is measured by means of RTD probe i.e. PT-100 sensor. The probe is located on the top plate of the cylindrical vessel. The output of the probe is fed to a controller with proportional integral function.

The controller output operates the heater or cooling water valve. A manual over ride is provided to permit independent adjustment. The temperature range is 5°C above ambient to 60°C with an accuracy of ± 0.2°C at an increment of 1°C min.

The temperature regulation is carried out in a closed loop circulation system with a pump, circulating water through the heat exchanger/baffles of the fermenter. If deviation to the set-point of the temperature is registered, the necessary control valves will automatically operate, either to feed heat or cooling water. The excess amount of cooling water overflows from the system.
The system is equipped with additional valves to connect a closed loop chilled water system.

The temperature regulation consists of:

- 1 Temperature probe PT-100 Sensor
- 1 Connection to PID/PLC control
- 1 PID/PLC controller with remote set point
- 1 Circulation pump
- 1 Heat control valve
- 1 Cooling water control valve
- 1 Heater & heat exchanger
- 1 Cryostat for below ambient temperature (Optional)

6. pH CONTROL (Range: 0 - 14):

The pH regulation automatically corrects on the acid and base side. The pH is measured by means of a steam sterilizable gel filled electrode. The output of the probe is amplified and connected to PID/PLC. At the same time, the signal is fed to the controller which has an injection time and a delay time, which can be regulated. The set-point of the pH valve/dosing pump is automatically controlled and remains constant. By changing the set-point on the controller, the pH can be varied.

The pH regulation consists of:

- 1 pH Electrode
- 1 Amplifier/transmitter
- 1 Connection for PID/PLC.
- 1 Digital read out
- 2 Disposable Disc Filter
- 2 Peristaltic pumps: 50-500 ml/Hr.

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- 3 Injection needle, silicon rubber tubes
- 2 x 250 ml Storage bottles

7. DO_2 MEASUREMENT AND CONTROL VIA AIR FLOW RATE:

With this system it is possible to measure the dissolved oxygen in the fermenter. The DO_2 probe can be sterilized in the autoclave or in place in the fermenter. The electrode anode consists of a platinum wire and the cathode is made of silver/silver chloride. A KCI - Methyl cellulose-Gel is used as the electrolyte. The membrane can be used for several sterilization without changing the measuring point. After 10 sterilization cycles, the membrane may have to be changed by means of removing the cap. The signal from the probe is amplified & fed to the transmitter and PID/PLC.

The control output of PID/PLC regulates the control valve of the air feed into the fermenter. This control valve is located directly on the rotameter and regulates the air flow rate. Air flow rate indication is displayed on the Rota meter.

The DO_2 Control System consists of:

- 1 DO_2 Electrode
- 1 Amplifier
- 1 Connection to the PID/PLC
- 1 Control valve
- 1 Pressure regulator
- 1Rotameters

8. OPTIONALS NECESSARY UTILITIES AT EXTRA COST:

i) CHEMICAL ANTIFOAM DEVICE:

An Antifoam probe, teflon coated is located on the top plate of the fermenter. The probe is adjustable in height. As soon as the tip of the probe contacts foam, an electrical signal is generated, amplified and an on/off timer system regulates the injection valve/peristaltic pump for the addition of antifoam chemical.

The Chemical antifoam device consists of:

- 1 Antifoam probe
- Amplifier in PID/PLC
- Electronic impulse counting in PID/PLC
- 1 Peristaltic pump
- 1 Disposable Disc Filter
- 1 x 250 ml Storage bottles
- 1 Injection needle
- Silicon rubber tube

ii) CHILLER WITH CIRCULATOR:

Chilled Water Bath of 10 Liter capacity is reliable equipment designed for carrying out research work at constant low temperature with a high accuracy of temperature control.

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Technical Details:

1. Temperature Range	: 15°C to ambient.
2. Accuracy of control	: ± 1°C.
3. Temperature control	: Through PID/PLC controller.
4. Cooling capacity	: 600 W @ 20°C and 200 W @ -20°C.
5. Pump pressure	: 1 Bar.
6. Flow rate	: 10 L/min.
7. Supply	: 220 / 230 volts – 50 Hz.

iii) OIL FREE AIR COMPRESSOR:

Model	: HS-1
Type	: Diaphragm
Voltage	: 230V AC, 50Hz
Max. Pressure	: 2 bar
Dimension	: 7.5” x 4.5” x 9.5”
Flow rate	: 10 LPM
Motor H.P.	: 1/3 H.P

iv) VERTICAL AUTOCLAVE:

Double walled construction with inner chamber is made out of Stainless Steel and outer made of Mild Steel, powder coated. The lid is made of Stainless Steel plate and sealed by joint less Neoprene Rubber gasket by wing nuts through hinged bolts by engaging slotted lugs on rim of the cover provided with radial locking system.

Specification:

Chamber size	: Ø550 x 650 mm H
Power rating	: 1.5 KW
Temperature	: 121˚C
Controller	: Digital temperature controller.

The autoclave lid is provided with dial pressure gauge air/steam release cock, spring loaded safety valve adjustable to any required point from 10 PSI to 20 PSI with an accuracy of ± 3 PSI, fitted with standard accessories, such as a drain cock, pressure gauge, steam release cock, heating element and SS wire mesh Basket. The equipment is hydraulically tested up to 40 PSI. Supplied with chord & plug to work on 220 volts AC supply.

9. UTILITIES REQUIRED:

Vertical Autoclave	: For In-situ-sterilization.
Cooling water	: Clean without suspended particle. Pressure 1 Bar. Amount 0.2 m3/Hr.
Chilled water bath	: For below Ambient operation.
Air	: Clean oil free. Pressure 2 Bar. Amount 0.5 Nm3/hr.
Electrical power	: 1 x 230 Volts 50 Hz.

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SCHEDULE – III
Technical Specification for Gas Chromatography- Mass Spectrometer (GC-MS)

Sr. No	Description	Tender Specification
1.	**GCMS System:**	Gas Chromatography-Mass Spectrometer (GC-MS) with original licensed windows-based software and capillary Injectors. Easily swappable interchangeable injector/detector position as per the requirement in the future. • Gas Chromatograph with Electronic Flow control for Simultaneous Pressure, Temperature and Flow Programming • All gases flow should be adjustable/ controlled by software with no manual control. • Auto shut down of instrument in case of leak detection in carrier gas. • Flame out test to prevent injection by setting the GC to a 'not ready' state. • Should have Isolation mode to allow septum change without interrupting carrier flow.
2.	**GC Oven :**	• Temperature Programming Ramps/Platue: >30 or higher • Should have an operating range of few degrees above ambient to 450°C; • Maximum Heating Rate: 120 °C/min or better; Maximum Number of Ramps to facilitate better analysis of environmental pollutant. • Operating Range: Ambient +3 °C to 450 °C or better • Oven cool-down (22 °C ambient): 450 °C to 50 °C in <4 min • EPC Pressure Range: 0-150psi or better • Retention time repeatability: <0.0008 min or better Overheat protection. • Typical peak area repeatability: <0.3 % RSD or better • Provision to install two or more columns, Retention time lock facility preferable. • Ambient rejection: < 0.01 °C per 1 °C or better • Temperature Accuracy: ± 1 %
3.	**Pneumatics:**	• System should have pneumatic Electronic Flow Control for all injectors & detectors.
4.	**Injectors - Split / Split less injector: Qty-2 :**	• Split / Split less injector for capillary Columns with Septum Purge functions • Must be suitable for all capillary columns, 50 um to 530 um id • Split ratio range: >10,000:1 or better, must be available to avoid column overload • Maximum operating temperature up to 400°C • Efficient carrier gas saver function to change from Helium to Nitrogen flow gas in future.

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		• Must have electronic septum purge flow control to eliminate carry-over • Should have upgradation facility of Isolation mode to allow column change without breaking the vacuum. • Pressure range: 0–1000 kPa (0–150 psi)
5.	**Head Space Auto Sampler :**	• Headspace Auto sampler for volatile analysis with innovative pneumatic design and direct GC connection to provide high sample integrity and robust workflow for superior performance and highly reliable operations on all types of samples. complete integration with the Chromatography Data System (CDS) software. Easy compliance and streamlined validation procedures to be achieved through dedicated tools for automatic reporting and system suitability testing. • Analytical Performance • Typical area repeatability <0.8% RSD or better • Vial capacity • 12-vial capacity or better • 12 Vial Incubation oven with Racks are exchangeable during sequence for endless operation • Option for cooled tray with vial capacity is to be available (with external circulating chiller) to upgrade in future if needed. (For Highly volatiles samples) • Vial size to use 10 mL, 20 mL and 22 mL headspace vials with: • Magnetic crimp or screw caps; flat or rounded bottom without any need of Vial adapter • Dimensions, including septum and cap. • Oven capacity: Air ventilated oven with 24-seat electrically-driven carousel
6.	**Mass Spectrometer:**	MS system should be offered with air-cooled high capacity single vacuum output turbo molecular pump, EI ion source and with the following specifications:
7.	**Ion Source:**	should be Free from any form wired connection, easy to clean, easy to maintain off-axis ion source, with suitable facility to carry out helium ion burn in source before the main analytical quadrupole.
8.	**Mass Spectrometer:**	• Should have dual filaments in all ionization modes. Source with Programmable heating at 350 °C or better • It should have accurate regulation of emission current up to 350 µA or more with improved regulation at low current. • It should have Integrated, dual filament assembly mounted with the same geometry with improved filament lifetime and effective regulation of emission current across the available emission current range. • The user definable electron energy should be adjustable from 0-150 eV or more • It should have constant calibration gas pressure for optimum system tuning.

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		• The GC transfer line temperature should be programmable up to 400 °C or more. • The system should have suitable technology to prevent neutrals to enter the main analytical quadrupole. • The system should have the upgradation facility for no vent to change the column as well as source cleaning without venting the vacuum of MS • EI source with maximum temperature of 350 degree C or better.
9.		• Electron energy up to 150 ev.or better • Emission current range - Up to 350 µA or better • EI sensitivity changed to 2000:1 (Guaranteed & to be demonstrated during installation. The supporting specification to be available in Company WEBSITE) • Scan speed : 20000 u/s or better • The Main quadrupole rods should be non-coated, homogeneous, solid metal rod and cleanable (No heating is preferred) • It should utilize new generation discrete dynode electron multiplier integrated with linear-log electrometer with maximum linear output • Electronic dynamic range > 108 or better • Mass Stability: 0.1 u/48 hours or better • Mass Range: 2 –1000 u or more • Resolution: Unit mass resolution maintained over the entire mass range • Scan Rate: Fast quadrupole scanning up to 20,000 u/s or better • Sensitivity: EI scan sensitivity 2000:1, by 1 micro liter injection of 1pg/ul OFN standard scanning from 50 to 300 amu at nominal 272 or better. • EI SIM Instrument detection limit should be 5fg or less. • Detector: 10KV conversion dynode detector with Overdrive lens • Turbo Molecular Pump: turbo molecular pump with capacity of 250L/sec or better • Evacuation System Control: Fully automatic “Auto Startup” and “Auto Shutdown” automatically should execute Turning - on and - off of Turbo pumps, fore line pump, and leak valves. • EI source should be inert to active compounds. • Should have provision for Selected Ion Monitoring Scan while simultaneously acquiring data in the Full Scan Mode.
10.	**Instrument Guaranteed**	• Detection limit: 5fg or less
11.	**Library:**	• Latest NIST-2020 library with license
12.	**Columns:**	• (2 numbers) DB5MS/HP5MS/EB5MS or equivalent column with dimension – 30m x 0.25 mm x 0.25µm. (2)
14.	**Computer:**	Suitable High-End factory fitted Compatible Computer workstation should come along with GCMS

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15.	**Delivery:**	Offered final/complete cost to door delivery basis up to GGU UNIVERSITY demo of Instrument and all related expenses to supply instrument up to the Lab. has to be borne by the supplier.
16.	**WARRANTY:**	• Five YEAR (Comprehensive) • Training Twice 3 days Training/Year under warranty period mutually agreed date.
17.	**Other Accessories:**	• Colored Laser Jet Printer
18.	**UPS:**	Suitable 10KVa UPS with 30 minutes Back up
19.	**Gas Cylinder:**	1. UHP Grade Helium Gas with Double Stage SS Diaphram Regulator- 2 set FOR GCMS 2. Gas purification panel for all required gases 10 μL liquid -2Nos & 5ml Gas Tight Syringe -1 No Gas line: Complete installation of suitable He-gas line for smooth running of the instrument with all necessary accessories like double stage gas cylinder regulator, purification panel, gas line with Stainless Steel tube etc.
20.	**Additional:**	Supplier should arrange application training by their personnel for minimum three working days after the installation of the system. Users lists of similar equipment supplied in India should be provided (Enclose full list of the users in India). Vendor should have couple of users available in last 5 years in the eastern zone of India. A detailed technical compliance is required with supporting data where possible to show compliance.
21.	**SPECIAL NOTE:**	• All specifications offered Needs to be supported with original literature as well as the same literature needs to be available on the official website of the manufacturing company. • The offer to be made in detail with all technical specification, item details with part no's. • All supporting technical literatures complying the technical specification need to be attached along with the order. • Extensive Training to be provided at installation site with a qualified application specialist

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SCHEDULE – IV:
Technical Specification for Trinocular Stereo Zoom Microscope with camera and Screen

Stereo zoom Microscope with Pair eyepieces HWF10x/23m. Should be with 15X Eye Piece

Trinocular head with 45° with diopter adjustment ± 5° on both tubes.

Interpupillary distance adjustable between 54 and 75 mm

0.65x to 5.5x zoom objective, Magnification from 6.5x to 55x

Field of view from 35 mm to 4.2 mm.
Working distance 110 mm Ergonomically pillar stand.

Maximum object height 148 mm

Should be with opaque stage plate, white/black stage plate and 2 object clamps

Incident and transmitted 3W LED illumination with illumination intensities can be adjusted separately.

4K Sony HD camera, Colour HD High-definition high speed camera 1080p, 36-bit colour rendering, 1/1.8-inch Sony 4K sensor, standard SD card, HDMI and USB-3 output with built-in capture software. Can be used in stand alone or with a computer and supplied with Image Focus Alpha software. Supplied with 0.5x objective.

Ultra HD Screen 22’inch

Sensor: Sony CMOS 4K Format: 1/1.8”, HDTV 1080p (50/60 Hz)

Pixel size: 2.0 x 2.0 µm pixels

Pixels: 3840 x 2160 pixels

HDMI interface 4K/60Hz or 1080p/60Hz HDMI 60 fps,

USB 30 fps 1080p MP4 video recording mode

Scan: Progressive scan Noise 3D Noise Reduction White balance: Automatic/manual Interfaces: Digital HDMI, GbE ethernet and USB 3

Storage: 16 Gb SD memory card or to USB-2

Camera: buttons on/Off Mounting C-mount interface. Supplied with 0.5x objective

Power supply: External main adapter 100-240 Vac to 12Vdc/1A

Operation: 10 to 50° C, 30-80 % relative humidity

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Dimensions 78 x 65 x 98 mm.

Software has a wide range of functions:

- Measurement can be done on still & live image.
- Measuring, segmentation & counting, stitching of image, extended depth of focus etc.
- Images can be saved in jpg, tiff, bmp, or dicom formats as well as avi format video.
- The brightness, contrast and saturation of captured image can be adjusted.
- Camera parameters for exposure time, white balance and colour control are easily accessible.
- The software is also has specific functions for fluorescence such as combining captured fluorescence images.

Warranty- 05 Years

The Microscope, Camera and Software Should be from same manufacturer.

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