



Guru Gobind Singh Indraprastha University

Sector 16C, Dwarka, New Delhi -110078

Website: <http://ipu.ac.in>

GGSIU/PUR/USCT(Lab Equipment)/2012-13/

Dated:22.03.2013

NOTICE INVITING TENDER

Guru Gobind Singh Indraprastha University invites sealed tenders from reputed and eligible contractors/firms in two bid system (Technical & Financial) for the Supply and Installation of **Lab Equipment for USCT** at GGSIP University, Sector 16C, Dwarka, New Delhi-110078. Tender Document contains details terms & conditions can be obtained from 10.00 a.m. to 03.00 p.m. upto 3rd May, 2013 from the office of Office of In-charge (Purchase), Room No. L010, Ground Floor, Library Block, GGSIP University, Sector 16C, Dwarka, New Delhi-110078 on payment of Rs.1000/- only through Demand Draft in favour of 'Registrar, GGSIP University, Dwarka, New Delhi'. Tender document can also be downloaded from University website i.e. www.ipu.ac.in. The downloaded tender document can be used by paying Rs.1000/- in the form of Demand Draft/pay order drawn in favour of 'Registrar, GGSIP University, Dwarka, New Delhi' to be enclosed with the filled in tender document (Technical Bid).

Duly completed tender document are to be dropped in the tender box at in the Office of In-charge (Purchase), Room No. L010, Ground Floor, Library Block, GGSIP University, Sector 16C, Dwarka, New Delhi-110078 latest by 02.00 p.m. on 7th May, 2013. The tenders (Technical Bids) shall be opened at 3.00 p.m. same day i.e. on 7th May, 2013 in the presence of tenderers or their representatives, if any.

(Dr. Bhaskar P. Joshi)
Registrar

**Cost: Rs. 1,000/-
(Rs. One Thousand only)**



**GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY
SECTOR 16C, DWARKA, DELHI – 110078**

**Name of Work: Supply & Installation of Lab Equipment for USCT GGSIPU
Campus, Sector 16 C, Dwarka, New Delhi – 110078.**

TENDER DOCUMENT

**In-charge(Purchase)
Room No. L010, Ground Floor, Library Block,
GGSIPU, Sector- 16C, Dwarka,
New Delhi – 110078
Contact Nos.: 25302149 – 150
Email address: purchaseipu@gmail.com**

INDEX

**Name of Work: Supply & Installation of Lab Equipment for USCT GGSIPU Campus, Sector
16 C, Dwarka, New Delhi – 110078.**

S. No.	Description	Page Nos.
1.	Notice Inviting Tender	4-13
2.	Information Regarding Technical Eligibility (Annexure A- F)	15-22
3.	Form of Performance Security (Annexure – H)	23
4.	Specification of the Items	24-30

**Guru Gobind Singh Indraprastha University
Sector 16C, Dwarka, , Delhi – 110078**

Tender Document

1. Name of work : Supply & Installation of Lab Equipment of USCT at GGSIPU Campus, Sector 16 C, Dwarka, New Delhi
2. Last Date of Time for submission of tender : 07.05.2013 upto 02.00 p.m.
3. Place / Office for submission for Tender : Office of In-charge (Purchase), Room No. L010, Ground Floor, Library Block, Guru Gobind Singh Indraprastha University, Sector 16C, Dwarka, New Delhi – 110078
4. Issued to : _____
5. Cost of Tender (Details)*
GGSSIPU Receipt No. : _____
Dated : _____
Amount : Rs. 1000/-
6. Date of Issue of Tender Document : _____
7. Signature of the officer issuing the document : _____
8. University Seal : _____

* In case Tender is down loaded from University website, then enclose a D/D of Rs.1000/- drawn in favour of Registrar, GGSIP University, payable at Delhi at a time of submission of tender document.

**SECTION I
INFORMATION & INSTRUCTIONS FOR BIDDERS**

Cost of Tender Form (Non-Refundable)	Rs.1,000/- (Rs. One Thousand Only) through DD in favour of Registrar, GGSIPU, Payable at Delhi
Completion period of the work	120 days (One Hundred Twenty Days) Supply & Installation of the Lab Equipment.
Issue of Tender Document	upto 03.05.2013 on all working days from 10.00 AM to 03.00 PM. Tender Document may be purchased from Office of In-charge (Purchase), Room No. L010, Ground Floor, Library Block, Guru Gobind Singh Indraprastha University, Sector 16C, Dwarka, New Delhi – 110078 OR Tender Document may be down loaded from the University Website.
Date and time of submission of Tender	07.05.2013 upto 02.00 P.M.
Earnest Money Deposit (EMD)	As shown in the Financial Bid against each item
Opening of Technical bid in presence of the authorized representatives of bidders, if any.	03.00 PM on 07.05.2013 in the office of Office of In-charge (Purchase), Room No. L010, Ground Floor, Library Block, Guru Gobind Singh Indraprastha University, Sector 16C, Dwarka, New Delhi – 110078

1.0 Introduction

- 1.1 The sealed item rate tenders are invited in two Bid System – (Technical & Financial Bid) on behalf of the Registrar, Guru Gobind Singh Indraprastha University, Sector 16C, Dwarka, Delhi – 110078 from reputed & eligible agencies for “**Supply & Installation of Lab Equipment for USCT at GGSIPU Campus, Sector 16C, Dwarka, New Delhi**”.

2.0 Scope

The work consists of:

- 2.1 Supply & Installation of **Lab Equipment for USCT** at University Campus at Sector-16C, Dwarka, New Delhi as per requirement given in **Section-III**.
- 2.2 Installation/fixing of **Lab Equipment for USCT**, at the said location.
- 2.3 Comprehensive **on-site warranty for a period of 24 months thereafter 36 months AMC** from the last date of completion / installation for all the items supplied as certified by the University.

3.0 Definitions:

- 3.1 **GGSIPU** means Guru Gobind Singh Indraprastha University, Delhi
- 3.2 **University** means Guru Gobind Singh Indraprastha University, Delhi
- 3.3 **Employer** means the Registrar, GGSIPU and his successor
- 3.4 **Bidder** means the Manufacturer or his direct authorized distributor (dealing at first point), individual, proprietary firm, partnership firm, limited company private or public or corporation
- 3.5 “**Year**” means “Financial year” unless stated otherwise.

4.0 Who can apply:

- 4.1 If the bidder is a proprietary firm, the application shall be signed by the proprietor with his full typewritten name and the full name of his firm with its current address, Contact details etc.

- 4.2 If the bidder is a firm in partnership, the application shall be signed by all partners of the firm with their full typewritten names and current addresses, or alternatively, by a partner holding power of attorney for the firm. In the latter case a certified copy of the power of attorney should accompany the application. In both cases, a certified copy of partnership deed and current address of all the partners of the firm should accompany the application.
- 4.3 If the bidder is a limited company or a corporation, the application shall be signed by a duly authorized person holding power of attorney for signing the application accompanied by a copy of the power of attorney. The bidder should also furnish a copy of the Memorandum and Articles of Association duly attested by a Public Notary.
- 4.4 **Joint Venture/ Consortiums are not accepted.**
- 5.0 Sealing and Marking of Bids**
- 5.1 The bidder shall place the three separate envelopes (called inner envelopes) marked “**Technical Bid**,” “**Financial Bid**” and “**Earnest Money Deposit**” in one outer envelope. The inner envelopes will have marking as follows:-
- A) Technical Bid
 - B) Earnest Money Deposit (EMD)
 - C) Financial Bid
- 5.2 The sealed inner and outer envelopes containing the EMD, technical bid and financial bid shall be addressed to Registrar, Guru Gobind Singh Indraprastha University, Sector 16C, Dwarka, New Delhi – 110078
- 5.3 The sealed tender shall bear the name and identification number of the Tender on the cover of the Envelope(s).
- 5.4 In addition to the identification required as above, **each** of the envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared late or is declared non-responsive.
- 6.0 Bid Submission:**
- 6.1 The envelop named “**Technical Bid**” shall comprise of all documents as per **Clause-7**.
- 6.2 The envelope named “**Financial Bid**” and shall comprise of the price bids of the items included in **Section III**
- 6.3 Each page of the Technical Bid, Tender Document & Financial Bid must be sealed and signed by the authorized signatory of the bidder.
- 6.4 Duly signed tender document along with all corrigendum, addendum issued, if any, should also be sealed as part of technical bid.
- 6.5 Conditions other than those laid down in the Tender document will not be entertained.

7.0 Eligibility Criteria for Technical Bid

The formats/Annexure for the documents to be submitted, with Technical bid, are placed at **Section –II (Annexure – A, A1, A2 to Annexure E)**:

7.1	Letter of Transmittal	Annexure – A
	Declaration by Bidder	Annexure – A1
	Compliance to Bid Requirement	Annexure – A2
7.2	Organizational Structure: - Legal status of the company/ organization with legal proof along with copies of the original documents	Annexure - B
7.3	Income Tax Registration (PAN No.),	Attach copies of the original documents
	Service Tax Registration,	
	Vat Registration/ TIN Number	
7.4	<ul style="list-style-type: none"> ➤ Average financial turnover of Rs.10 Lakhs during the immediate last three consecutive financial years, duly audited, signed & stamped by a Chartered Accountant and a copy of Balance Sheet to be enclosed for item number 1 to 13 and 15 to 18. ➤ Average financial turnover of Rs.60 Lakhs during the immediate last three consecutive financial years, duly audited, signed & stamped by a Chartered Accountant and a copy of Balance Sheet to be enclosed for item number 14, 19 to 22. 	Annexure C
	The bidder should not have incurred losses in more than two years in the last 3 consecutive financial years, duly certified by Chartered Accountant, along with copies of audited profit and loss account of last three years	
7.5	<p>Firm should have a their/own authorized service centre in Delhi/NCR should executed atleast 03 nos. of Supply of Lab Equipment for any public educational institutions including University, public sector undertakings, Govt. departments (central or state) or public research institutes in the last 03 years</p> <p>Explanation: “Similar Supply” means the work of Supply & Installation, installation of Lab Equipment in public sector undertaking, Govt. department, Educational Institutions, Research Institutional or in reputed private sector. This should be certified by an officer of the client organization not below the rank of Executive Engineer/Director/ Administrative Officer on their letter-head.</p>	Annexure D
7.6	An affidavit on Rs.10/- (non-judicial stamp paper) declaring that the bidder/ organization has not been blacklisted/debarred by any of the government/ public sector agency in the last 3 years. A declaration of fair business practice by the Bidder.	Annexure – E
7.7	All items of the Tender must be quoted by the Manufacturer or his direct authorized distributor (dealing at first point), individual, proprietary firm, partnership firm, limited company private or public or corporation. Incomplete quote shall be summarily rejected.	
7.8	The Manufacturer should have a authorized service centre in India only	Attach copy of proof
7.9	Printed and proper circulated catalog for the quoted similar items be submitted along with the tender document	Attach copy of proof
7.10	User list with supply/purchase order of the similar field in the Govt./ reputed organization	Attach copy of proof

8.0 Evaluation Criteria:

8.1 The details submitted by the bidders will be evaluated in the following manner:

8.1.1 The “initial eligibility criteria” prescribed in para 7.0 to 7.8 above in respect of experience in similar class of works completed, financial turnover, profitability and valid registrations will first be scrutinized.

8.1.2 Evaluation of Financial bid.

8.2 Technical bid Evaluation:

8.2.1 Even though any bidder may satisfy the above requirements, he/she would be liable to disqualification if he/she has:-

- 8.2.1.1 Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria document.
- 8.2.1.2 Record of poor performance such as abandoning work, not properly completing the contract, or financial failures/weaknesses etc.

8.3 Opening of Financial bid and evaluation:

After the Technical evaluation of the bids, the University will open the 'Financial Bids' of all the bidders who have qualified in the Technical Eligibility Criteria as per Clause 7, at notified time, date and place in the presence of the qualified bidders or their representatives, if any. **The lowest financial bidder shall only be considered for award of work.**

9.0 Earnest Money Deposit:

- 9.1 The Earnest Money Deposit (EMD) must be attached (see Clause 5.1). The Earnest money shall be accepted with a minimum validity of 6 months in the following forms and shall be in favour of "Registrar, GGSIPU", payable at Delhi:-
- i. Demand draft / Bankers cheque
 - ii. Fixed deposit receipt (FDR)
- 9.2 Tenders with no earnest money deposit will summarily be rejected. In case of successful bidder of the financial bids, the earnest money will be returned after obtaining the required 10% Performance Security in the form of FDR alongwith the agreement on non-judiciary stamp paper of Rs.100/-.
- 9.3 In the case of unsuccessful bidders, the Earnest Money Deposit will be refunded without any interest.

10.0 Financial Bid:

- 10.1 The bidder shall quote unit (the rate should be quoted in the Financial Bid of this NIT only and should be inclusive of AMC for 36 months) rate in INR/USD/EURO/British Pound as the case may be, both in word and figures in the Financial Bid only. No alterations in the form of tender, in the schedule of quantities or additions etc. shall be permitted. In case of difference between the rates of items written in figures and in words, the rates of items written in words shall be taken as correct. No changes in unit rates shall be allowed. The rates quoted in schedule quantity are for finished and completed items and no extra amount for carting or transporting material, labour etc. shall be paid unless specifically so mentioned or provided for in tender. The rates should be inclusive of all leads and lifts for all materials in the completed items and also include all taxes, duties, royalties etc. including Work Contract Tax, labour cess, ESI, EPF etc. as applicable. No extra payment on this account will be made.
- 10.2 The Work Contract Tax/Turnover Tax/Income Tax/DVAT [in case the supplier/ contractor is not registered with Delhi VAT (Trade & Tax Deptt. Of Govt. of NCT of Delhi), TDS on account of VAT will be applicable @ 4%] shall be deducted at source at the rate that will be in force from time to time.
- 10.3 The bidder shall quote unit rate in INR/USD/EURO/British Pound as the case may be, both in word and figures in the Financial Bid only. **Exchange rate on the date of opening of financial bid will be applicable for the purpose of comparison as well as final payment.** Import items should be quoted as per performa invoice by the principals.

11.0 General:

- 11.1 All information called for in the enclosed forms should be furnished against the relevant places in the forms. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against at the relevant place. Even if no information is to be provided in a column, a "Nil" or "**No Such Case**" entry should be made in that column. If any particular/query is not applicable in case of the bidder, it should be stated as "not applicable". **The bidders are cautioned that Supply & Installation for incomplete information called for in the application forms or deliberate suppression of any information may result in the bid being summarily disqualified. Bids received after the expiry of the stipulated date and time mentioned in the tender document will not be entertained.**

- 11.2 The bid document should be legibly **written and serially numbered with proper tagging and binding**. The bidder should sign each page of the bid.
- 11.3 Overwriting should be avoided. Correction, if any, should be made by neatly crossing out, initialing with date and rewriting. Pages of the eligibility criteria document are to be numbered. Additional sheets, if any added by the bidder, should also be numbered. Bid should be submitted as a package with signed letter of transmittal.
- 11.4 References, information and certificates from the respective clients certifying suitability, technical knowledge or capability of the bidder should be signed by officer of the client organization with name & designation.
- 11.5 The bidder may furnish any additional information which he thinks is necessary to establish his capabilities to successfully complete the envisaged work. He is, however, advised not to furnish superfluous information. No information shall be entertained after submission of tender document unless it is called for by the University.
- 11.6 Any information furnished by the bidder found to be incorrect either immediately or at a later date, would render him liable to be debarred from tendering/taking up of any work in GGSIPU.
- 11.7 The successful bidder shall have to work in co-ordination and co-operation with any other agencies appointed by the University to work simultaneously in the same or adjoining area. The decision of the University in case of any dispute between the different agencies appointed by the University shall be final and a binding.
- 11.8 The bidder will have to enter into regular agreement **within 7 days** from the receipt of acceptance of the tender and shall abide by all the rules and regulations embodied therein.
- 11.9 Income tax, Works Contract Tax and any other tax at the rates in force during the progress of contract that will be in force from time to time shall be recovered / deducted from the released payment amount.
- 11.10 Sales Tax, purchase Tax, turnover tax or any other tax on material applicable on the date of submission of bid in respect of this contract shall be payable by the contractor and University will not entertain any claim whatsoever in respect of the same.
- 11.11 The bidder shall have to make his own arrangement at no extra cost to the University for water Supply & Installation, sanitation and electric Supply & Installation etc. at the site of work.
- 11.12 On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the University shall be communicated in writing to the Registrar.
- 11.13 The contractor shall furnish a list of University employees related to him, if any.
- 11.14 If the bidder shall obtain a contract with GGSIPU as a result of wrong tendering or other non-bonafide methods of competitive tendering, the University reserves the right to terminate the contract without any liability to the contractor.
- 11.15 Without prejudice to any of the rights or remedies under this contract if the contractor dies, the University shall have the option of terminating the contract without compensation to the legal heir of the contractor.
- 11.16 Escalation: Increase in rates of material / Labour shall not be payable on any account. Price quoted shall be firm and no escalation will be allowed on any account.
- 11.17 The successful bidder will have to sign an agreement within stipulated time period as mentioned in the letter of intent. The necessary fees, stamp paper, etc. required for completing the agreement have to be borne by the bidder.
- 11.18 **Scope of Works**
The Scope of work shall consist of fabrication and assembly for **Lab Equipment for USCT** including manufacturing, Supply & Installation, erection and placing in position at site, complete in all respects, and its maintenance during warranty period.
- 11.19 **Specification for Work and Quality**
The procurement of various materials shall be either from the manufacturers or their main authorized dealers to ensure that no duplicate/spurious makes are used in the works. The entire work shall be warranted for a period of three years against defective material with liability of replacement or to the satisfaction of the University.

- 11.20 **Safety and Security**
Safety and Security of workers/staff, material, equipments, etc. will be the responsibility of the contractor. The university will not be held responsible on this account
- 11.21 The University reserves the right, without being liable for any damages or obligation to inform the bidder, to:
(a) Amend the scope and value of contract to the bidder.
(b) Reject any or all the applications without assigning any reason.
- 11.22 Any effort on the part of the bidder or his agent to exercise influence or to pressurize the University would result in rejection of his bid. Canvassing to any kind is prohibited.

12.0 Final decision making authority

The University reserves the right to accept or reject any bid and to annul the process and reject all bids at any time, without assigning any reason or incurring any liability to the bidders. No claim whatsoever will be entertained / paid by the university to the bidder (s).

13.0 Summary Rejection of tender:

- 13.1 The tenders not accompanied with Tender Fees and Earnest Money Deposit shall be summarily rejected. Similarly, if the bidder proposes any alternation in or additions to the prescribed form of tender or decline to carry out any work of the tender document; or any conditions mentioned, etc., his tender is liable to be rejected.

14.0 Particulars provisional

- 14.1 The University reserves the right to execute the work or reject the tender without assigning any reason or incurring any liability to the bidder.
- 14.2 The University has the power to make alteration in, omission from, addition of or substitution for the original specifications, drawings, designs.
- 14.3 Variation in the quantity of work order will be up to 30% from the proposed quantity and must be acceptable to the bidder for a period of one year from the date of acceptance of the work order.

15.0 Site visit

The bidder is requested to visit the work site and get acquainted with site conditions regarding layout and all other matters, affecting the work before filling in the item rates. Submission of a tender by a bidder, implies that they have read these instructions and have made themselves aware of the scope of the work, conditions of contract and University will not, therefore, bear any extra charges on any account, in case the bidder finds later on to have misjudged the site conditions or specification.

16.0 Amendment of tender document:

- 16.1 Before the deadline for submission of tender, the University may modify the tender document by issuing addenda.
- 16.2 Any addendum thus issued shall be a part of the tender document and shall be uploaded on the University website (www.ipu.ac.in). Prospective bidders must visit the website before filling and submission of Tender Document for such information.

17.0 Validity of Tender:

90 days from the date of opening of tender. During this period no bidder shall be allowed to withdraw his tender. In case of withdrawal, the EMD submitted by the bidder shall be forfeited and no claim shall be entertained on this regard.

18.0 Performance Guarantee:

- 18.1 The Performance Guarantee of 10% of the total tendered value will be deposited by the tenderer within the 10 days after the letter of intent. The Performance Guarantee shall be accepted in the following form and shall be in favour of “**Registrar, GGSIPU**”, payable at Delhi with a validity of months as under:-
- i. Fixed deposit receipt (FDR) of a nationalized bank (27 months validity)
 - ii. Bank Guarantee(As per **Annexure-H**) (27 months validity)
- 18.2 The Performance Guarantee will be refunded without any interest after the successful installation and after three months of completion of warranty period.
- 18.3 In case of non submission of Performance Guarantee within specified time, the earnest money will be forfeited and the University may consider to black list/debarred the contractor.
- 18.4 In case a fixed deposit receipt/ Bank Guarantee of any bank is furnished by the contractor to the University as part of the Performance Guarantee and the Bank is unable to make payment against the said instrument. The loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the University to make good the deficit.

19.0 Warranty

The bidder shall provide **24 months warrant thereafter 36 months AMC** (on site and comprehensive) on all items from the last date of installation and shall be responsible for any defects that develop in the **Lab Equipment for USCT**. They shall also replace any defective part of the product supplied and other accessories, without any exception and recourse, free of cost.

The bidder is responsible for all packing, unpacking, assembly, installation of units. The bidder will test the products and accomplish the adjustments necessary for successful and continuous operation of the products supplied at all installation sites and shall ensure maintenance of the supplied products during the warranty period. All the repairing / replacing of defects shall be done by the bidder totally free of cost.

20.0 Duration

The items covered under this tender are required to be delivered and installed at University Campus at Sector 16C, Dwarka, New Delhi **within 120 days**, as specified in delivery schedule submitted by bidder. The Supply & Installation and installation is to commence 60th day after the issue of letter of Indent. The 120 days will start from date of Issue of Purchase Order by the University.

21.0 Payment Terms

Payment for Goods and Services shall be made by University in Indian Rupees as follows:

- 21.1 70% of the accepted value shall be paid to the supplier after satisfactory completion /installation as mentioned in the purchase order/ work award letter. Balance 30% will be made during the AMC period @ 10% of each completed year of AMC.
- 21.2 Each invoice should be submitted in duplicate clearly specifying contract no, goods description, quantity, unit price, total amount along with warranty certificate, etc.
- 21.3 No advance payment will be made under any circumstances.

22.0 Delay and Non Conformance

- 22.1 If the bidder fails to Install the Equipment with in the period specified in the Purchase Order, University shall without prejudice to its other remedies under the Purchase Order, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% of the contract price of the delayed goods weekly or part thereof of delay until actual delivery. The penalties will be maximum of 10% of the contract amount / awarded value.
- 22.2 In case of extraordinary delay or beyond 60 days of stipulated delivery period, University reserves the right to terminate the contract, without any liability to cancellation charges, forfeit/encash the submitted Performance Guarantee and blacklist/debarred the defaulting firm.

23.0 Services during warranty period

- 23.1 The maximum response time for maintenance complaint during warranty period (i.e. time required for bidder's maintenance engineer to report at the installation after a request call/telegram is made or letter is written) shall not exceed 01 day.
- 23.2 The period for correction of defects in warranty period is 03 days.
- 23.3 In case an item is not usable beyond the stipulated maximum downtime the contractor will be required to arrange for an immediate replacement.
- 23.4 In case the rectification of defects is not carried out within 03 days and replacement of defective items are not provided, a penalty of sum equivalent to 5% per week of the delivered price of that defective item(s) shall be levied. This penalty is applicable upto a maximum of 4 weeks (maximum 20%). Subsequently, the rectification shall be carried out by the University at the risk and cost of the contractor. The cost of repairs along with the penalty of 100% shall be recovered from the payment with held with University and the balance amount if any, will be paid to the contractor after completion of warranty obligations.

24.0 Packing and Marking

- 24.1 All packing should be strong enough to withstand rough handling during loading/ unloading and transporting. Fragile articles should be packed with special precaution and should bear the marking like Fragile, handle with care, This side up etc.
- 24.2 All protection and threaded fittings shall be suitably protected and covers shall block the openings.

25.0 Substitution and Wrong Supplies

Unauthorized substitution or materials delivered in error of wrong description or quality or supplied in excess quantity or rejected goods shall be returned to the contractor at contractor's cost and risk.

26.0 Insurance, Freight and Deliveries

- 26.1 The contractor shall make all arrangements towards safe and complete delivery at the designated locations indicated by University in the Purchase Order. Such responsibility on part of the contractor will include taking care of insurance, freight, state level permits etc. as applicable.
- 26.2 The contractor will keep University informed about changes, if any, in various stages of deliveries, installation.

27.0 Arbitration and Settlement of Disputes:

- 27.1 University and the contractor shall make every effort to resolve amicably by direct information negotiation by difference or dispute arising between them under or in connection with the University order.
- 27.2 If after thirty (30) days from the commencement of such informal negotiations, University and the contractor have been unable to resolve amicably the dispute, either party may require that the dispute be referred for resolution to the formal mechanisms as specified hereunder:
- 27.2.1 Any dispute or differences whatsoever arising between the parties out of or relating to the manufacturing, meaning, scope, operation or effect of this contract or the validity or the breach thereof shall be settled by arbitration in accordance with the provisions of the Arbitration & Conciliation Act, 1996 and the award made in pursuance thereof shall be binding on the parties. The sole arbitrator shall be appointed by the Vice Chancellor, GGS Indraprastha University.
- 27.2.2 The performance under this contract shall not stop for any reason whatsoever during the said dispute/proceedings, unless the contractor is specifically directed by University to desist from working in this behalf.
- 27.2.3 The venue of arbitration shall be Delhi/ New Delhi. The language of proceedings shall be English. The Law governing the substantive issues between the parties shall be the Laws of India. All disputes are subject to the jurisdiction of the Delhi Courts only

27.2.4 It is also a term of that if any fees are payable to the arbitrator, these shall be paid equally by both the parties. It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims.

28.0 Force Majeure

For purpose of this Clause, “**Force Majeure**” means an event beyond the control of the contractor and not involving the Contractor’s fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the University either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargo.

If a Force Majeure situation arises, the contractor shall promptly notify the University in writing of such conditions and the cause thereof. Unless otherwise directed by the University in writing, the Supplier shall continue to perform its obligations under the Purchase Order as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

SECTION II
INFORMATION REGARDING TECHNICAL ELIGIBILITY
(Annexure A to E)

LETTER OF TRANSMITTAL

From:

To

The Registrar

GGSIU

Sector 16C, Dwarka,

Delhi

Sub: Submission of Tender Document for the work of “**Supply & Installation of Lab Equipment for USCT at GGSIPU Campus, Sector 16C, Dwarka, New Delhi**”.

Sir,

Having examined the details given in Tender document for the above work, I/we hereby submit the relevant information:-

1. I/we hereby certify that all the statement made and information supplied in the enclosed annexure / forms accompanying statement are true and correct.
2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to Supply & Installation.
3. I/we submit the requisite certified solvency certificate and authorize the Registrar, GGSIPU to approach Bank issuing the solvency certificate to confirm the correctness thereof. I/we also authorize the GGSIPU to approach individuals, employers, firms and corporation to verify our competence and general reputation.

Name & Signature(s) of Bidder(s) with seal

DECLARATION BY THE BIDDER

We _____ (Name of the Bidder) hereby represent that we have gone through and understood the Bidding Document (which in two parts) in Part-I (Commercial Section & Technical Section) and Part-II (Schedule of Quantities) and that our Bid has been prepared accordingly in compliance with the requirement stipulated in the said documents.

We are submitting a copy of Bidding Document marked “Original” as part of our Bid duly signed and stamped on each page in token of our acceptance. We undertake that Part-I and Part-II of the Bidding Document shall be deemed to form part of our bid and in the event of award of work to us, the same shall be considered for constitution of Contract Agreement. Further, we shall sign and stamp each page of this Part-I and Part-II as a token of Acceptance and as a part of the Contract in the event of award of Contract to us.

We further confirm that we have indicated prices in Schedule of Quantities and submitted in Price Bid in separately sealed envelope. We confirm that rate quoted by us includes price for all works/activities/supply etc. as mentioned in item description of the items in Schedule of Quantities.

SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

COMPANY SEAL : _____

Note : This declaration should be signed by the Bidder’s representative who is signing the Bid.

COMPLIANCE TO BID REQUIREMENT

We hereby agree to fully comply with, abide by and accept without variation, deviation or reservation all technical, commercial and other conditions whatsoever of the Bidding Documents and Addendum to the Bidding Documents, if any, for subject work issued by GGSIPU.

We hereby further confirm that any terms and conditions if mentioned in our bid (Un-priced as well as Priced Part) shall not be recognized and shall be treated as null and void.

SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

COMPANY SEAL : _____

ORGANISATION STRUCTURE

1. Name & Address of the Bidder :
2. Telephone No./Fax No./ e-mail :
3. Legal status of the Bidder (attach copies of original document defining the legal status)
 - a) An Individual
 - b) A proprietary firm
 - c) A firm in partnership
 - d) A limited company or Corporation
 - e) A Public Sector Undertaking
4. Particulars of registration with various Government Bodies (Attach attested Photo Copy)
 Organization /Place of registration Registration No
5. PAN No. -----
6. Names and Titles of Directors & Officers with designation
to be concerned with this work. :
7. Name & Designation of individuals authorized to act for the organization :
(Pl attach power of attorney in favour of authorized representative duly signed by authorized signatory)
8. Was the Bidder ever required to suspend work
for a period of more than six months continuously after you
commenced the construction? If so, give the name of the
project and reasons of suspension of work. :
9. Has the Bidder, or any constituent partner in case of
partnership firm, ever abandoned the awarded work before
its completion? If so, give name of the project and reasons
for abandonment. :
10. Has the Bidder, or any constituent partner in case of
partnership firm, ever been debarred/ black listed for
tendering in any organization at any time? If so, give details. :
11. Has the Bidder, or any constituent partner in case of
partnership firm, ever been convicted by a court of law?
If so, give details. :
13. Any other information considered necessary but not included above. :

(Stamp, Name & Signature of Bidder)

DETAILS OF ANNUAL TURNOVER

A. FINANCIAL DETAILS

Financial Years	Gross Annual Turnover (In Lakhs)	Profit/Loss (In Lakhs)
2011-2012		
2010-2011		
2009-2010		

B. Audited balance sheet and profit & loss account for above three years to be submitted.

(Stamp, Name & Signature of Bidder)

DETAILS OF SUPPLY OF LAB EQUIPMENT IN LAST 03 (THREE) YEARS

S.No.	POSTAL ADDRESS OF CLIENT WITH CONTACT NUMBERS	STARTING DATE	SCHEDULED COMPLETION DATE	ACTUAL COMPLETION DATE	REASONS FOR DELAY, IF, ANY

(Stamp & Signature of Bidder)

DECLARATION FOR FAIR BUSINESS BY THE BIDDER

(Affidavit on Non-Judicial Stamp Paper of Rs.10/- duly attested by Notary / Magistrate)

This is to certify that We, M/s _____ in submission of this offer confirm that:-

- i) We have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements;
- ii) We do not have records of poor performance such as abandoning the work, not properly completing the contract, inordinate delays in completion, litigation history or financial failures etc.
- iii) Business has not been banned with us by any Central / State Government Department/ Public Sector Undertaking or Enterprise of Central / State Government.
- iv) We have submitted all the supporting documents and furnished the relevant details as per prescribed format.
- v) The information and documents submitted with the tender by us are correct and we are fully responsible for the correctness of the information and documents submitted by us.
- vi) We understood that in case of any statement/information/document furnished by us or to be furnished by us in connection with this offer is found to be incorrect or false, our EMD in full will be forfeited and business dealings will be banned.
- vii) We have not been punished / penalized by way of imprisonment in last three years.
- viii) We have not been blacklisted/debarred by any of the Government/Public Sector Agency in last three years.

SEAL, SIGNATURE & NAME OF THE BIDDER

Signing this document

CHECK LIST FOR SUBMISSION OF BID
(separate of each bid)

Bidder is requested to fill this check list and ensure that all details/documents have been furnished as called for in the Bidding Document along with duly filled in, signed & stamped checklist **with each copy of the "Un-priced bid (Part – I)"**.

Please tick the box and ensure compliance:

- 1 EMD
- 2 Bid Forwarding Letter
- 3 Power of Attorney in Favour of the person who has signed the bid on stamp paper of Appropriate value.
- 4 Partnership Deed in case of partnership firm and Article of Association in case of limited company.
- 5 Compliance to Bid Requirement
- 6 Declaration by the bidder
- 7 All pages of the bid have been page numbered in sequential manner.
- 8 Annexure(s) – A to E
- 9 Valid VAT, Service Tax, Excise Registration

SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

COMPANY SEAL : _____

**Form of Performance Guarantee
Bank Guarantee Bond**

1. In consideration of the GGSIPU (hereinafter called “The University”) having offered to accept the terms and conditions of the proposed agreement between ----- and ----- (hereinafter called “the said Contractor(s)”) for the work ----- (hereinafter called “the said agreement”) having agreed to production of a irrevocable Bank Guarantee for Rs.----- (Rupees ----- only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and condition in the said agreement.

We, ------(indicate the name of the Bank) ----- (hereinafter referred as “the Bank”) hereby undertake to pay to the University an amount not exceeding Rs.----- (Rupees ----- only) on demand by the University.

2. We, ------(indicate the name of the Bank) ----- do hereby undertake to pay the amounts due and payable under this guarantee without any demure, merely on a demand from the University stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.----- (Rupees ----- only).
3. We, the said bank further undertake to pay the University any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.
The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.
4. We, ------(indicate the name of the Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the University under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Project-in-Charge on behalf of the University certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.
5. We, ------(indicate the name of the Bank) further agree with the University that the University shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the University against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act of omission on the part of the University or any indulgence by the University to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).
7. We, ------(indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the University in writing.
8. This guarantee shall be valid upto ----- unless extended on demand by the University. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs.----- (Rupees ----- only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.
- Dated the ----- day of ----- for ----- (indicate the name of the Bank)

SECTION III

SCHEDULE OF QUANTITIES

FINANCIAL BID **(To be sealed separately)**

Financial bid in respect of Supply & Installation of **Lab Equipment for USCT mentioned as under** at Guru Gobind Singh Indraprastha University Campus, Sector 16C, Dwarka, Delhi

S. No.	Name of the Item	Specifications	Qty	EMD Amount (Rs.)	Unit Price in figure (inclusive taxes)	Unit Price in words Amount (inclusive taxes)
1	York Scheibel's Extraction Column	<ul style="list-style-type: none"> ➤ <i>Extraction Column:</i> Material Borosilicate Glass Dia. 45 mm, Height 750 mm (approx.) with SS end cups & support plates ➤ <i>Packing:</i> Material Stainless Steel Woven mesh type for calming section ➤ <i>Agitator:</i> SS multiple impellers and shaft coupled with Variable Speed Motor ➤ <i>Feed Tanks:</i> Material Stainless Steel (02 Nos.), Capacity 10 Ltrs. With level indicators, air release valves, charging funnel with valve, air pressure fittings, feed lines, drain valve etc. ➤ <i>Flow Measurement:</i> Rotameter (One each for solvent & solute) ➤ <i>Feed Circulation:</i> By Compressed Air using PU pipe line & fittings Pressure Regulator Bourdon type (0-2 kg/cm²) Air compressor (Optional) ➤ <i>Feed Piping:</i> Chemical Circulations By PVC/SS ➤ <i>Control Panel:</i> Digital RPM indicator non contact type. On/Off switch, Mains Indicator etc. 	1	7500/-		
2	Steam Distillation Set up	<ul style="list-style-type: none"> ➤ <i>Distillation Vessel:</i> Jacketed Type Material Stainless Steel, Capacity 3 Ltrs. Insulated with ceramic wool ➤ <i>Steam Generator:</i> Made of Stainless Steel, provided with Pressure gauge (Bourdon type 0-2 kg/cm²) & Level Gauge, Safety valve & insulated with ceramic wool ➤ <i>Separating Chamber:</i> Capacity 2 Ltrs ➤ <i>Condenser:</i> Shell & Tube type made of Stainless Steel. ➤ <i>Collection Tank:</i> Distillate & bottom product capacity 2 Ltrs. Each ➤ <i>Heaters:</i> Nichrome wire heater ➤ <i>Piping:</i> PVC/SS ➤ <i>Temp. Sensors:</i> RTD PT-100 type ➤ <i>Control Panel:</i> Digital Temp. Controller. 0-199.9 °C, (For Re-boiler) Digital Temp. Indicator: 0-199.9°C, with multi-channel switch, On/off switch, Mains Indicator etc. 	1	6000/-		
3	Liquid in Liquid Diffusion Apparatus	<ul style="list-style-type: none"> ➤ <i>Diffusion cell:</i> Material Ceramic, Vertical Porous cylinder ➤ <i>Diffusion vessel:</i> Material Borosil glass/ acrylic Capacity 1-2 Ltrs ➤ <i>Hot plate:</i> Standard make of suitable capacity ➤ <i>Stirrer:</i> Teflon magnet ➤ <i>Conductivity meter:</i> Standard make with good quality cell. 	1	3750/-		
4	Vapour-Liquid Equilibrium Set-Up	<ul style="list-style-type: none"> ➤ <i>Distillation still:</i> Material of construction: SS/ Glass., Capacity. 1 Ltr. Insulated by ceramic wool & Nichrome wire Heating Mental ➤ <i>Condenser:</i> Concentric Tube type 	1	3750/-		

S. No.	Name of the Item	Specifications	Qty	EMD Amount (Rs.)	Unit Price in figure (inclusive taxes)	Unit Price in words Amount (inclusive taxes)
	(Stainless Steel)	<ul style="list-style-type: none"> ➤ <i>Cooling Water Tank:</i> Material Stainless Steel, Capacity 20 litre ➤ <i>Water Circulation:</i> FHP pump, Arrangement is done to vary & measure the flow rate. ➤ <i>Temp. Measurement:</i> RTD PT-100 type Temp. Sensors ➤ <i>Control panel:</i> Digital Temp. Controller 0-199.9°C for Distillation still, Digital Temp. Indicator: 0-199.9°C, with multi channel switch, On/off switch, Mains Indicator etc. 				
5	Hollow fiber Membrane Set up	<ul style="list-style-type: none"> ➤ <i>Membrane Type:</i> Hydrophilic polymeric ➤ <i>Module Size:</i> Fiber inner diameter 0.7mm, fibre outer diameter 1.4mm, length of the fiber 16cm, total surface area not less than. 280 cm². ➤ <i>Pressure Drop:</i> 50 psi (max) ➤ <i>Flow rate:</i> 50 LPH (max) ➤ <i>Pressure gauge (02):</i> (up to 50 psi) ➤ <i>Rotameter:</i> one (up to 50 LPH) ➤ <i>Membrane Cartridge:</i> Two each for UF (20 and 70 kDa), MF (20 and 50 microns) and NF (700 and 200 Da MWCO) 	1	8750/-		
6	Two phase flow study in horizontal pipe.	<p>The set up should consist of a horizontal pipe through which air and water can be fed separately. At the end of pipe air water separator should be provided. The horizontal pipe should have provision for pressure measurement and flow measurement. The set up should have inlet, outlet, and other necessary fittings & with following technical details.</p> <ul style="list-style-type: none"> ➤ <i>Pipe (02) :</i> Material of Construction: Plexi glass ➤ <i>Length :</i> 2.5 m ➤ <i>ID :</i> 25 mm and 40 mm ➤ <i>Feed tank with proper drainage system: (01)</i> ➤ <i>Capacity:</i> 50 L ➤ <i>Material of construction:</i> Plastic ➤ <i>Pumps (01):</i> Centrifugal pump with by pass line. (Standard make) ➤ <i>Capacity :</i> 1HP, Single Phase ➤ <i>Rotameter (02) For air :</i> Up to 100 LPM ➤ <i>For water:</i> Up to 50 LPM ➤ <i>Air-water Separator:</i> Material of construction: Acrylic with suitable diameter & height ➤ <i>Pressure drop measurement :</i> U-tube manometer (Number: 03) ➤ <i>Air pressure measurement with regulator:</i> ➤ <i>Suitable pressure regulator</i> ➤ <i>Pressure gauge:</i> Bourdon type (0-2 kg/cm²) 	1	5000/-		
7	Plug Flow Reactor (PFR)	<p>A bench top PFR (helical coil tube type) kept in a constant temp water bath to conduct the experiment at various temperatures. The set up should consist of two feed tanks through which two reactants are fed to the reactor. Peristaltic pumps should be provided to measure the individual flow of the reactant. The set up should work independently with proper inlet, outlet & other necessary fittings. The following are the technical details:</p> <ul style="list-style-type: none"> ➤ <i>Reactor (01):</i> ➤ <i>Material of construction:</i> Stainless steel ➤ <i>I.D of coiled tube:</i> 10 mm ➤ <i>Length of coil :</i> 2 m ➤ <i>Spare coil of 1m length which can be fitted to the existing coil.</i> ➤ <i>Feed Tank (02):</i> 	1	10000/-		

S. No.	Name of the Item	Specifications	Qty	EMD Amount (Rs.)	Unit Price in figure (inclusive taxes)	Unit Price in words Amount (inclusive taxes)
		<ul style="list-style-type: none"> ➤ Material of construction: Stainless steel ➤ Capacity : 10 L ➤ Pumps (02): Standard make peristaltic pump with silicon feed tubes and digital flow indicator. ➤ Constant Temp bath (01, Suitable capacity): Material Stainless steel, Double wall, with proper insulation and PID controller for temperature. ➤ Temperature indicator (02): Temperature indicators for reactor and for water bath. ➤ Mixing chamber: It should have mixing chamber before the reaction vessel of suitable capacity. 				
8	Batch Reactor	<p>The set up should consist of a reactor fitted in a constant temperature water bath. A stirrer should be provided for mixing the reactants. A bench top batch reactor should be provided with necessary fittings & with following technical details.</p> <ul style="list-style-type: none"> ➤ Reactor (01): Capacity: 2L ➤ Material of construction: Stainless steel (SS – 316) ➤ Stirrer: Suitable Stirrer with rpm controller (max rpm upto 4000 rpm), stainless steel impeller. ➤ Constant Temp bath (01, Suitable capacity): Material Stainless steel, Double wall with proper insulation and PID controller for temperature (Ambient to 95°C temp. range). ➤ Temperature indicator (02): Temperature indicators for reactor and for water bath. ➤ Sampling device: Proper sampling device for analysis. 	1	5000/-		
9	Continuous Stirred tank reactor (CSTR)	<p>The set up should consist of a reactor kept in constant temperature water bath. Provision should be made to conduct experiment with three reactors of variable volume in the same constant temperature water bath. Two reactants are fed to the reactor from two separate feed tanks. Two peristaltic feed pumps should be provided for flow measurement. The bench top CSTR set up should be provided with proper inlet, outlet and other necessary fittings. The following are the technical details:</p> <ul style="list-style-type: none"> ➤ Reactors (03): ➤ Capacity: 0.5 L, 1.0 L, 2 L ➤ Material of construction: Stainless steel (SS-316) ➤ Feed Tank (02): ➤ Material of construction: Stainless steel ➤ Capacity : 10 L ➤ Stirrer: Suitable Stirrer with rpm controller (max rpm up to 4000 rpm), stainless steel impeller. ➤ Pumps (02): Standard make peristaltic pump with silicon feed tubes and digital flow indicator. ➤ Constant Temperature water bath (01, Suitable capacity): ➤ Material Stainless steel, Double wall, with proper insulation and PID controller for temperature. ➤ Temperature indicator (02): Temperature 	1	10000/-		

S. No.	Name of the Item	Specifications	Qty	EMD Amount (Rs.)	Unit Price in figure (inclusive taxes)	Unit Price in words Amount (inclusive taxes)
		indicators for reactor and for water bath.				
10	Peristaltic Pump	Technical Details <ul style="list-style-type: none"> ➤ Flow Rate range from 0.1 to 1000 ml/hr ➤ Available with timer and LED Display for flow rate of function and time. ➤ Very economic in use while using low cost tubing without stoppers 	1	2500/-		
11	Boiler	<ul style="list-style-type: none"> ➤ Steam output : 30 kg /hour ➤ Water feed pump : 01(H.P) ➤ Dimensions (W x D x H) : 32---x 56---x 37-- ➤ Application (no of iron): 06 (inches) ➤ Dry weight : 310 (kg) ➤ Fuel consumption : 1.5-2 (Ltr/hr) 	1	3750/-		
12	Compressed air line and their assembly	<ul style="list-style-type: none"> ➤ Length of pipe - Approximately 200 ft ➤ Material of construction – Galvanised Iron pipe ➤ Size of pipe - ½ inch ➤ 10 Valves - ½ inch needle valve ➤ 10 Pressure gauges - 10 kgf/cm² 	1	1750/-		
13	Steam line and their assembly	<ul style="list-style-type: none"> ➤ Length of pipe - Approximately 200 ft ➤ Material of construction – Mild Steel ➤ Insulation: Glass wool and aluminium cover ➤ Size of pipe - ½ inch ➤ Valves (Numbers: 10) - ½ inch needle valve ➤ Pressure gauges (Numbers:10) - 2 kgf/cm² 	1	4000/-		
14	Computer Controlled Film and Drop wise Condensation unit	<p>Bench-top unit, should have its own steam generator and air extraction system, as well as condensers to provide drop wise and film wise condensation is to be supplied. Steam chamber is to be thick-walled glass cylinder with aluminum ends and P.T.F.E. seals. Capacity should be approximately 0.5 - 1 Kg. of distilled water.</p> <p>It should have water cooled condensers.</p> <p>Drop wise condenser should be gold plated.</p> <p>Film wise condenser should be natural finish.</p> <p>Each condenser is to be provided with temperature sensors ("K" type) to measure the mean metal temperature, and temperature sensors ("J" type) to measure the inlet and outlet water temperatures, respectively.</p> <p>Electric heating element with thermal protection is to be provided. Power of the resistance is to be computer controlled.</p> <p>Air extraction system is to be composed by air cooler, separator and water jet vacuum pump with the necessary valves.</p> <p>Pressure sensor is to be supplied to measure the chamber pressure. (Range: 0-6 bar)</p> <p>Water flow sensors (0-6.5 l./min.) is to be supplied to measure the water flow rate through the condensers.</p>	1	70000/-		
15	Cross flow tubular membrane module	<p>A bench top cross flow tubular module should be constructed with stainless steel having diameter (I.D) of 25 mm and length of 40 cm. A suitable metal (like titanium etc.) rod of 6 mm diameter coated with 6 micron platinum should be installed and passing through the centre of the filler tube and should act as an anode. The outside of the tubular membrane should work as cathode made of perforated stainless steel and also work as membrane support. The cathode and anode should have connector for external electrical connection. The both ends of the tube as well as the outer body of the tubular module</p>	1	15000/-		

S. No.	Name of the Item	Specifications	Qty	EMD Amount (Rs.)	Unit Price in figure (inclusive taxes)	Unit Price in words Amount (inclusive taxes)
		<p>should be properly electrically insulated. Feed tank maintained at constant temperature (operating temperature: ambient to 80 °C) should be connected directly with the pump and pump discharge should feed to the ultrafiltration module. Feed inlet should be provided with a distributor. To avoid channeling bottom of the flow channel should be grooved and connected to a common outlet for permeate collection. Set up should be provided with appropriate piping/ tubing/ connectors for obtaining into the running condition with following technical details.</p> <ul style="list-style-type: none"> ➤ Feed tank (01): ➤ Capacity : 10 L ➤ Diameter : (15-18) cm ➤ Material of Construction: Stainless steel ➤ Operating pressure : Up to 200 psi ➤ Measuring flow rate : Up to 25 LPM ➤ Rotameter : a) 0.5 - 5 LPM (one) ➤ 5 - 25 LPM (one) ➤ Pump (01) : Make: ASPEE ➤ Pressure measurement: Pressure gauge: Bourdon type (0-250 psi) <p>The model should be provided with inlet, outlet, recycle, suitable pressure gauge.</p>				
16	Cross-flow duct membrane module	<p>A bench top cross flow flat sheet ultrafiltration duct module constructed with polyplast should be provided with inlet, outlet, recycle and appropriate perforated stainless steel (SS) membrane support. Permeation should be from both the sides (top and bottom) of the duct and should have common outlet for collection. A perforated metal plate like titanium (length: 25 cm, width: 5 cm, thickness: 1 mm) coated with platinum (thickness of platinum coating 6.0 micron) should be placed at the centre of the ultrafiltration channel. This plate should be connected with a SS connector for external electrical connection. Similar provision for the connector should be with SS support both side the flow channel. Feed tank maintained at constant temperature (operating temperature: ambient to 80 °C) should be connected directly with the pump and pump discharge should feed to the ultrafiltration module. Feed inlet should be provided with a distributor. To avoid channeling bottom of the flow channel should be grooved and connected to a common outlet for permeate collection. Set up should be provided with appropriate piping/ tubing/ connectors for obtaining into the running condition with following technical details.</p> <ul style="list-style-type: none"> ➤ <i>Channel:</i> Length: 30 cm, Width: 6 cm. ➤ <i>Channel height:</i> 15-18 mm. ➤ <i>Rotameter (02).</i> One with the capacity of (0-150 LPH) and the other with the capacity of 0-20 LPM. ➤ <i>Feed tank (01):</i> ➤ Capacity : 10 L ➤ Diameter : (15-18) cm ➤ Material of Construction: Stainless steel ➤ <i>Pump:</i> Make: ASPEE ➤ Capacity: 25 LPM ➤ <i>Operating pressure:</i> Up to 250 psi ➤ <i>Pressure measurement:</i> Pressure gauge: Bourdon type (0-250 psi) 	1	15000/-		
17	Fixed Bed	<ul style="list-style-type: none"> ➤ Reactor tube for reaction with flanges and 	1	5000/-		

S. No.	Name of the Item	Specifications	Qty	EMD Amount (Rs.)	Unit Price in figure (inclusive taxes)	Unit Price in words Amount (inclusive taxes)
	Reactor	<p>gasket, catalyst bucket, with provision for thermocouple and reactant inlet and product outlet: Dimension: 25.4 mm ID x 500 mm L; MOC: SS 316; Pressure: Atmospheric</p> <ul style="list-style-type: none"> ➤ Thermocouple and temperature indicator: Temperature: Upto 1000°C ➤ Furnace for the Reactor heating with PID controller: Electric furnace heating, tube type; 2 zones; Temperature: Upto 1000°C ➤ Furnace for pre heating with with PID controller: Electric furnace heating, tube type; Temperature: Upto 350°C ➤ Tube for the pre heating and reactant inlet and product outlet provisions: Dimension: 16.4 mm ID x 300 mm L; MOC: SS 316; Pressure: Atmospheric ➤ Iron Frame base: for holding the reactor, pre heater system and peristaltic pump 				
18	Constant temperature water bath	<ul style="list-style-type: none"> ➤ Temperature range: Ambient temperature to 90 °C ➤ Water bath: Stainless steel internal of capacity 20 L with proper cover ➤ Thermal insulation ➤ Uniformity and stability: ±0.2 °C or less ➤ Temperature digital display, electronic controller 	1	3000/-		
19	UV-VISIBLE Double Beam Spectrophotometer	<p>Standalone, user friendly, double beam system incorporating automatic calibration built in colour LCD screen with dedicated keyboard. The instrument should have standard built in software with functions such as wavelength scan, time scan, multiple wavelength, validation function, automatic wavelength calibration, lamp ignition time, proper interface for printing etc with the following technical details.</p> <ul style="list-style-type: none"> ➤ Optical system: Double Beam ➤ Wavelength range : 190 to 1100 nm ➤ Spectral bandpass: 1.5 nm or less ➤ Stray light : 0.05% or less ➤ <input type="checkbox"/> Wavelength accuracy : ±0.3 nm or less ➤ <input type="checkbox"/> Wavelength setting repeatability : ±0.1 nm or less ➤ <input type="checkbox"/> Photometric range : - 3 to 3 Abs / 0 to 300% T ➤ <input type="checkbox"/> Photometric accuracy : ± 0.002 - 0.008 Abs (0 to 2.0 Abs) ➤ <input type="checkbox"/> Photometric repeatability : ±0.001- 0.004 Abs (0 to 2.0 Abs) ➤ <input type="checkbox"/> Wavelength scan speed: Max. 3600 nm/min ➤ Baseline stability : 0.0003 Abs (at 500 nm, 2 hours after power on) ➤ Noise level : ±0.0015 Abs or less (at 500 nm) ➤ <input type="checkbox"/> Baseline flatness : ±0.0006 Abs (within 200 to 950 nm) ➤ <input type="checkbox"/> Light source : Tungsten Iodide and Deuterium lamps ➤ <input type="checkbox"/> Lamp source changeover : Automatic ➤ <input type="checkbox"/> Detector : Silicon Photodiode ➤ <input type="checkbox"/> Facility for automatic data storage in commercially available USB memory 	1	20000/-		
20	Digital Refractometer	<ul style="list-style-type: none"> ➤ Range 1.33000-1.70000 nD; 0-95% Brix ➤ Accuracy: +/- 0.00002 nD or +/- 0.02% Brix ➤ Resolution: 0.00001 nD; or 0.01% Brix ➤ Temperature Measurement: 0-100°C ➤ Temperature Resolution: 0.01°C ➤ Measurement Modes: Single, Interval, Single 	1	30000/-		

S. No.	Name of the Item	Specifications	Qty	EMD Amount (Rs.)	Unit Price in figure (inclusive taxes)	Unit Price in words Amount (inclusive taxes)
		Temp., Continuous flow through cell.				
21	Contact Angle Measurement System	<p>Software-controlled system for contact angle measurement, surface free energy calculation of flat solid surface and measurement of liquid surface tension with the following technical details.</p> <ul style="list-style-type: none"> ➤ Contact angle range: 1-180° ➤ Contact angle measurement resolution: 0.1° ➤ Surface tension range: 0.01 to 1000 mN/m ➤ Surface tension measurement resolution: 0.01 mN/m ➤ Optical system with adjustable focus and zoom (6x or above) lens ➤ High Speed camera module 75 or more full frames per second (fps)-with 656x492 pixel. ➤ Software-Controlled direct Dosing System with 02 numbers syringe ➤ Disposable dosing needles of suitable size for contact angle measurement ➤ High power halogen illumination with software adjusted intensity of light. <p>Suitable size of sample stage (min. 10 cm x 10cm or more) with flexible positioning in x-y-z directions.</p>	1	60000/-		
22	Electronic weighing Balance	<ul style="list-style-type: none"> ➤ Type: Laboratory Balance ➤ Power Supply: 110V/220V ➤ Display Type: LCD ➤ Rated Load: 200g ➤ Accuracy: 0.0001g 	1	5000		

OFFICIAL SEAL, SIGNATURE & NAME OF THE BIDDER