



**Guwahati Biotech Park**

Technology Complex, IIT Guwahati

Guwahati- 781 039

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## **TENDER DOCUMENT FOR**

### **SUPPLY, INSTALLATION & COMMISSIONING OF LABORATORY EQUIPMENTS AT GUWAHATI BIOTECH PARK INCUBATION CENTER**

**NIT No.GBPIC/8.2.4.1/2015-16/2804 Dated 20<sup>th</sup> August 2015**

<b>System of bid</b>	<b>Two Bid system Part-I: Technical Bid Part-II: Price Bid</b>
<b>Last date &amp; Time of submission of bids</b>	<b>19.09.2015 up to 1700 hrs.</b>
<b>Date &amp; Time of Opening of bids</b>	<b>21.09.2015 at 1100 hrs.</b>
<b>Tender Fee</b>	<b>Rs.1000/-(One Thousand Only) in D.D./Banker's Cheque drawn in favor of Guwahati Biotech Park Incubation Center payable at Guwahati</b>

GUWAHATI BIOTECH PARK  
TECHNOLOGY COMPLEX  
IIT GUWAHATI, GUWAHATI-781039

**TENDER FORM**

1	<b>NAME &amp; ADDRESS of the Bidder</b>	
2	<b>Telephone/Fax/Email</b>	
3	<b>NIT No. &amp; Date</b>	
4	<b>Name of the item quoted</b>	
5	<b>Offer/Quotation No. &amp; date</b>	
6	<b>Name of the authorized signatory</b>	
7	<b>Status of the tenderer: Proprietary concern/Partnership firm/Ltd. Company/Other</b>	
8	<b>Tender fee details</b>	<b>DD No..... DTD.....</b>
9	<b>EMD details</b>	<b>DD/BG No..... DATE:.....</b>
10	<b>CST/TIN/VAT No.</b>	
11	<b>PAN No.</b>	
12	<b>Enclosures along with bid</b>	
13	<b>Remarks if any</b>	

**Date**

**Signature & seal of Tenderer**

**Note:** This tender form duly filled & signed should accompany with the Technical Bid as the top most page.

**INDEX**  
**CHAPTER-1: INSTRUCTION TO BIDDERS**

<b>SI No.</b>	<b>Clause</b>	<b>Page No.</b>
1.1	Two bid & mode of transmission	4
1.2	Technical Bid	5
1.3	Price Bid	5
1.4	Cost of Preparation of Bid	5
1.5	Eligibility of bidder	5
1.6	Experience & capability of bidder	6
1.7	Tender fee	6
1.8	EMD	6
1.9	Amendment to bidding document	7
1.10	Preparation of Bids	7
1.11	Price schedule	7
1.12	Concession permissible under Statutes	7
1.13	Period of Validity	7
1.14	Deadline for Submission & Opening	8
1.15	Conformity to specifications	8
1.16	Notification of award (NOA)	8
1.17	Performance Bank Guarantee	8
<b>CHAPTER-2: GENERAL CONDITIONS OF CONTRACT</b>		
2.1	Rate & price break up	9
2.2	Rate quoted for Imported Goods	9
2.3	Evaluation of Bid	9-10
2.4	Delivery & Installation	10
2.5	Safe delivery of goods	11
2.6	Shipment/delivery document	11
2.7	Liquidated Damage	11
2.8	Pre-installation requisites	12
2.9	Transit Insurance	12
2.10	Warranty & Guarantee	12
2.11	Inspection /Testing and acceptance of material	12
2.12	Change order	13
2.13	Quantity in order	13
2.14	Payment schedule	13
2.15	Catalogue /Manual	14
2.16	Short Shipment/Transshipment	14
2.17	Genuine pricing	14
2.18	Conditional Tenders	14
2.19	Enquiry during evaluation	14
2.20	Termination of default	14
2.21	Applicable law & Arbitration	14
2.23	Liability in case of Joint venture, Consortium, Amalgamation Patent right etc.	15
2.24	Force majeure	15
2.25	Consideration of tender	15
<b>ANNEXURES</b>		
	Annexure-I: PBG Format	16
	Annexure-II: Price schedule for imported goods	17-18
	Annexure-III: Price Proforma for Indigenous goods	19-20
	Annexure-IV: Bidder information form	21
	Annexure-V: Manufacturer's authorization letter	22
	Annexure-VI: Bid security form	23
	Annexure-VII: Bidder's past services proforma	24
	Annexure-VIII: Deviation Form	25
	Annexure-IX: Service support details	26
	Annexure-X: Bid form	27
	Annexure-XI: Checklist (BOQ)	28-29
	Annexure-XII: Technical Specifications	30-112

**BIDDING DOCUMENT**

**INVITATION FOR BIDS**

To, \_\_\_\_\_  
M/s. \_\_\_\_\_  
\_\_\_\_\_

Dear Sir,

The Chief Executive Officer, Guwahati Biotech Park, invites sealed quotations for supply, installation & commissioning of Equipments as per details at “**Instruction to Bidders’, General conditions of Contract” and Annexures I to XII** in **double** bid and so as to reach the office of the Guwahati Biotech Park on or before 19<sup>th</sup> September, 2015 up to 1700 hrs.

The Tender will be governed by the “Notice Inviting Tender (NIT), “Instruction to Bidders”, “General Conditions of contract” and Annexures from I to XII of tender document. Deviation/Exceptions to the clauses, if any should be explicitly recorded.

This Bid Document contains pages numbered 1 to 112 consecutively. Please check to see that no page is missing nor any in duplicate. The bid documents are not transferable and the firm’s seal and signature of the authorized official must appear on all the papers and envelops submitted. Tenders must be submitted separately for each item along with EMDs. Combined tenders submitted for more than one item together will be summarily rejected. However tender fee is one time submission only. Further clarification/corrigendum in this regard, if any, will be uploaded only on GBP website.

**Chapter-1**

**INSTRUCTION TO BIDDERS**

- 1.1 **TWO BID MODE OF TRANSMISSION:** Offers will have to be submitted in two Parts i.e. a) Technical Bid (Part-I) and (b) Price Bid (Part-II). The first inner sealed cover will contain Technical bid having all details but with price column blanked out. This cover will clearly be super scribed with "Technical bid" along with tender number and item description. The second sealed inner cover will contain only the price schedule duly filled in and signed and will be clearly super scribed with "Price Bid" along with tender number. These two covers shall be put into outer cover and sealed super scribing the following lines:

<b>“QUOTATION FOR SUPPLY, INSTALLATION &amp; COMMISSIONING OF LABORATORY EQUIPMENTS AT GUWAHATI BIOTECH PARK , TECHNOLOGY COMPLEX, IIT GUWAHATI, GUWAHATI-781039”</b>	
<b>NIT No. GBPIC/8.2.4.1/2015-16/2804 DATED 20<sup>th</sup> AUGUST 2015</b>	
<b>To The Chief Executive Officer, Guwahati Biotech Park Technology Complex: IIT Guwahati Guwahati -781039, Assam, India</b>	<b>From: M/s..... Contact No.:..... Email ID:.....</b>

1.2 **TECHNICAL BID (Part-I): In the Technical Bid the vendor must provide the followings:**

- 1.2.1 Details of technical features of the offered equipments vis-à-vis NIT specifications;
- 1.2.2 Standard technical literature on each of the item offered;
- 1.2.3 Latest original catalogue in support of the item offered.
- 1.2.4 Dealership certificate on the offered products in case of dealers/authorized distributors;
- 1.2.5 List of reputed organizations/institutions where similar orders have been executed (copies work order to be enclosed)
- 1.2.6 Up-to-date Sales tax clearance certificate (for vendors outside the state of Assam)/VAT Registration certificate indicating also the TIN numbers (for vendors within the state of Assam) of the firm will have to accompany the quotation to be submitted.
- 1.2.7 Details of nature and maximum period of warranty offered by the vendor. The firm should give at least 3yrs warranty of the item from the date of installation or 39 months from the date of shipment whichever is earlier.
- 1.2.8 After sales service: the name and address of the nearest available authorized service centre should be stated in the quotation.
- 1.2.9 Tender fee in DD/Bankers Cheque & Earnest Money deposit (EMD) in the form of DD or BG must be enclosed with the technical bid.
- 1.2.10 The tenderer has to state in detail requirements including the electrical/power requirements, floor space, head room, foundation needed, AIR conditioned environment etc. for complete installation & commissioning of the equipments.

1.3 **PRICE BID (Part-II): In the Price Bid part, the vendor must provide the followings;**

- 1.3.1 Quantity, basic price against item-wise details of specifications of each of the offered items;
- 1.3.2 Price of optional accessories as required by NIT specifications and also may be relevant for the offered equipments will have to be specifically mentioned in the quotation;
- 1.3.3 Packing & Forwarding Charges if any (as percentage of basic price or as lump sum)
- 1.3.4 Central/ Sates Sales tax/Vat ( as percentage of **basic+ packing & forwarding charge** if any)
- 1.3.5 Freight and Insurance charge if any (as percentage or as lump sum)
- 1.3.6 Annual maintenance Contract (AMC) rate after expiry of standard warranty period is to be clearly indicated preferably in both comprehensive and non-comprehensive terms failure to which the offer may not be considered even if it turns out to be at the lowest price. **Quoted prices should be inclusive of 3 years warranty at free of cost.**
- 1.3.7 Installation and commissioning charge (including service tax) to be shown item-wise extra, if any.
- 1.3.8 In case if the quoted price is FOR/FOB basis, the estimated insurance coverage charges may please be indicated.
- 1.3.9 CIP/CIF, (named place of delivery in India) value for Airways and Ocean freight respectively.
- 1.3.10 Custom Duty & Clearance Charges if any.
- 1.3.11 Inland freight/transportation & Insurance Charges if any.
- 1.3.12 Any other levies/Charges.

1.4 **COST OF PREPARATION OF BID:**

All costs associated with the participation in this bid such as preparation & submission of bid, post tender opening communications, personal representations during the tender opening etc. will be borne by the bidder.

1.5 **ELIGIBILITY OF BIDDER:**

- 1.5.1 The bidder shall either be the Original Equipment Manufacturer (OEM) or their authorized Original Equipment Supplier (OES), Authorized Distributor or Supplier. OES/Authorized Distributor/Supplier should enclose letter of authorization from O.E.M. authorizing the bidder to quote for the quoted item and shall be valid at the time of bidding.
- 1.5.2 Either the Indian Agent on behalf of the principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item or product. Furthermore if an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same product/item.

1.6 **EXPERIENCE & CAPABILITY OF THE BIDDER:**

The bidder must possess, prior to the deadline for submission of bid, minimum experience of executing such supply in laboratories or reputed institutes for last three years and successfully accomplishing each of the activities supply, Installation, testing and commissioning. The claim shall be supported by necessary detailed documentary evidence (copy of Supply order/Contract, installation report etc.) in respect of the equipments supplied. Experience shall be cited in the proforma at **Annexure-VII**.

1.7 **TENDER FEE:**

1.7.1 **Bidder has to submit a non-refundable one time Tender Fee** of Rs.1000/- (Rupees One Thousand only) in the form of demand draft in favour of **Guwahati Biotech Park Incubation Center**, Payable at Guwahati and should be sent in a separate envelope. The offer will not be considered without tender fee.

1.7.2 The Government Departments, National Small Industries Corporations (NSIC) or Small Scale Industries (SSI) are exempted from payment of tender fee.

1.8 **EARNEST MONEY DEPOSIT**

1.8.1 Refundable earnest money deposit, amounting to minimum 2% of the total quoted value, in case quoted value is Rs.1 lakh or more, (rounded off to the nearest hundred rupees) must be deposited as an earnest money along with the "Technical Bid" by demand draft or Bank Guarantee in favour of 'Chief Executive Officer, Guwahati Biotech Park' and payable at Guwahati.

1.8.2 **Vendor has to submit separate offers along with EMDs for each equipment.** Firms registered with DGS & D or with SSI/NSIC are not required to submit EMD. On the back side of the DD/BG the bidder should mention their name and the item against which the DD/BG is submitted. In case of foreign bidders, the BG is to be submitted by the Principal or their Indian Agent.

1.8.3 The EMD is required to protect the GBP against the risk of Bidder's conduct which would warrant the security's forfeiture in the following events:

- a. If the Bid is withdrawn during the validity period or any extension thereof duly agreed by the Bidder.
- b. If Bid is varied or modified in a manner not acceptable to GBP during the validity period or any extension of the validity duly agreed by the Bidder.
- c. If a Bidder, having been notified of the acceptance of its bid, fails to furnish Security Deposit/Performance Bank Guarantee within 21 days of notification of such acceptance.

1.8.4 GBP shall not be liable to pay any bank charges, commission or interest on the amount of EMD. The EMDs of unsuccessful Bidders will be returned on finalization of the bid. The EMD of successful bidder will be returned on receipt of Performance Bank Guarantee (PBG) against award of contract.

1.8.5 The EMD/BG shall be submitted in a separate envelope superscribing the followings:

<b>NIT No. GBPIC/8.2.4.1/2015-16/2804 DATED 20<sup>th</sup> AUGUST 2015</b>
<b>"EMD SUBMITTED FOR.....(name of the item)</b> <b>DD/BG No. ....Date.....</b>
<b>To</b> <b>The Chief Executive Officer,</b> <b>Guwahati Biotech Park</b> <b>Technology Complex: IIT Guwahati</b> <b>Guwahati -781039, Assam, India</b>
<b>From: M/s.....</b> <b>Contact No.:.....</b> <b>Email ID:.....</b>

Please do not disclose the value of the EMD anywhere in the Technical Bid.

## 1.9 **AMENDMENT TO BIDDING DOCUMENT**

1.9.1 At any time prior to the deadline for submission of bids, the purchaser may, for any reason, whether at its own initiative or in response to clarification(s) requested by prospective bidder(s), modify the bidding documents by amendment(s). The changes/modifications would be hosted in the official website of GBP and therefore the prospective bidders are requested to surf the purchaser's official website before submitting their bids to take cognizance of the amendments.

1.9.2 In order to allow prospective Bidders reasonable time in which to take the amendments into account in preparing their bids, Guwahati Biotech Park may, at its discretion, extend the deadline for the submission of bids.

## 1.10 **PREPARATION OF BIDS**

1.10.1 The governing language for the Bids submitted shall be in English in the prescribed bid proforma & Annexures. The prescribed proforma and Annexures duly filled in and signed should be returned intact whether quoting for any item or not.

1.10.2 In the event of the space on the bid proforma being insufficient for the required purpose, additional pages may be added. Each such additional page must be numbered consecutively, showing the tender number and should be duly signed.

1.10.3 The Bidder shall sign its bid with the exact name of the firm to whom the contract is to be issued. The bid shall be duly signed and sealed by competent officer of the Bidder's organization. Each bid shall be signed by a duly authorized officer and in the case of GBP the same shall be sealed and signed or otherwise appropriately executed under seal.

1.10.4 The Bidder, in each tender, will have to give a certificate in its offer, that the terms and conditions as laid down in this bidding document are acceptable to it in toto.

## 1.11 **PRICE SCHEDULE**

**Bid Prices:** The bidders shall indicate on the appropriate price schedule, the net unit prices (wherever applicable). Prices quoted by the bidder shall be firm during the bidder's performance of the contract and not subject to variation on any account. Discount, if any, should be merged with the quoted prices.

## 1.12. **CONCESSIONS PERMISSIBLE UNDER STATUTES**

1.12.1 Bidder, while quoting against this tender, must take cognizance of all concessions permissible under the statutes including the benefit under Central Sale Tax Act, 1956, failing which it will have to bear extra cost where Bidder does not avail concessional rates of levies like customs duty, excise duty, sales tax, etc. GBP will not take responsibility towards this.

1.12.2 **INCOME TAX LIABILITY:** Bidder will have to bear all Income Tax liability both corporate and personal tax. Bidders should also bear the Service Tax liability.

1.12.3 Guwahati Biotech Park is exempted from payment of Excise duty vide Govt. of India Notification No. 10/97-Central Excise dated 1<sup>st</sup> March, 1997 and Custom Duty vide Govt. of India notification no.51/96-customs dated 23<sup>rd</sup> July, 1996.

1.12.4 GBP is NOT registered under the Central Sale Tax Act and is NOT entitled to avail concessional rate of Central Sales tax against form 'C' in respect of inter-state purchases

## 1.13 **PERIOD OF VALIDITY OF BID**

1.13.1 Bid shall be valid for acceptance for a period of 120 days from the date of opening as indicated in the "Invitation for Bid" and shall not be withdrawn on or after the opening of bids till the expiration of the validity period or any extension agreed thereof.

1.13.2 In exceptional circumstances, prior to expiry of the original bid validity period, the GBP may request the bidder for a specified extension in the period of validity. The requests and the responses shall be made in writing. The Bidder will undertake not to vary/modify the bid during the validity period or any extension agreed thereof. Bidder agreeing to the request for extension of validity of offer shall be required to extend the validity of Bid Security correspondingly.

1.13.3 No bid may be modified (or) withdrawn after the dead line for submission of bids.

1.13.4 Telex/Telegraphic/Telefax/Xerox/Photocopy bids will not be considered.

- 1.14 **DEADLINE FOR SUBMISSION AND OPENING OF BIDS**
- 1.14.1 Last date & Time for receipt of bid **19<sup>th</sup> September, 2015 up to 5 p.m.**  
All out-station tenders, if sent by post, should be sent under registered cover. Any bid received after dead line for submission of bid, will be rejected and returned unopened. GBP will not be responsible for the loss of tender or for the delay in postal transit.
- 1.14.2 Date & Time of opening bid **21<sup>th</sup> September, 2015 at 11.00 a.m.**  
The Bidder or his authorized representative may be present at the time of opening of bid on the specified date. In case of unscheduled holiday on the closing/opening day of bid, the next working day will be treated as scheduled prescribed day of closing/opening of bid, the time notified remaining the same.
- 1.14.3 Price bids of unsuccessful bidder, which remain unopened with GBP, will be returned to the concerned bidders within 5 (five) working days of receipt of Performance Guarantee Bond from the successful bidder.
- 1.15 **CONFORMITY TO SPECIFICATIONS (both foreign & indigenous):**
- 1.15.1 Specifications are basic essence of the product. The Bidder must note that their Bids will be rejected in case the tender stipulations are not complied with strictly or the services offered do not conform to the required specifications indicated therein. At the same time it must also be kept in mind that merely copying our specifications in their quotation shall not make the firms eligible for consideration. The lowest Bid will be determined from among those Bids which are in full conformity with the required specifications. Compliance to technical specifications of the system envisaged in the bid-document is essential.
- 1.15.2 A quotation has to be supported with the printed OEM's technical literature / leaflets and the specifications mentioned in the quotation must be reflected/supported by such printed technical leaflets/literature and model quoted/tendered specifications should invariably be highlighted in the leaflets for easy reference.
- 1.15.3 Bids will be evaluated on the basis of printed technical literature / brochures / details / certifications / catalogue provided in the bid. Bidders are therefore required to submit these documents as applicable in respect of the offered items as evidence that offered items meet the tender specifications. **Deviation in the configuration shall be clearly INTIMATED in the format as per Annexure-VIII (Deviation certificate).**
- 1.16 **NOTIFICATION OF AWARD:**
- 1.16.1 **AWARD OF ORDER/CONTRACT:** GBP will award the order/contract to the successful bidder whose bid has been determined to be **in full conformity to the bid documents** and has been determined as the lowest evaluated bid (L1).
- 1.16.2 Prior to the expiration of the period of bid validity, the GBP will notify the successful bidder in writing (within a maximum period of 7 days once the evaluation process is finalized) that its bid has been accepted. The notification of award will constitute the formation of the contract. Thereupon the detailed order will be transmitted through Post/courier/Fax and email as well.
- 1.16.3 In the event, the bid validity is found expired at the time of releasing the order, GBP will ask the successful bidder (L1) to extend the validity of their bid price till the confirmation of order.
- 1.17 **PERFORMANCE BANK GUARANTEE**(Applicable only to Orders costing Rs. 5 lakh or more)
- 1.17.1 The successful bidder shall furnish an unconditional performance bank guarantee in the Performance Security Form provided at **Annexure-I** valid till 60 days after the warranty period from a scheduled bank for 10% of the Purchase order value within 21 days from the placement of order failing to which the contract shall be deemed as terminated. Failure of the successful Bidder to comply with this requirement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the GBP may make the award to the next lowest evaluated bidder or call for new bids.
- 1.17.2 The Performance Guarantee will be returned within 60 days of completion of contract in all respect/delivery period as per contract / supply order.
- 1.17.3 The Bank Guarantee by Indian Bidders will be given on non- judicial stamp paper as per stamp duty applicable at the place where the tender has emanated. The non-judicial stamp paper should be in name of the issuing Bank.
- 1.17.4 The expiry date as mentioned should be arrived at by adding 30 days to the date of expiry of the bid validity unless otherwise specified in the bidding documents.
- 1.17.5 The Bank Guarantee will be given from Nationalised/Scheduled Banks only.



## CHAPTER-2

### GENERAL CONDITIONS OF CONTRACT

(Please note that the term "both foreign & indigenous" wherever mentioned means the term is applicable to both foreign & indigenous purchase)

#### 2.1 RATES & PRICE BREAK UPS;

##### 2.1.1 Rates quoted for indigenous items should be on FOR Guwahati Biotech Park i.e. on door delivery basis, with break-ups as per details below:

Break-up of cost:

- a) Basic price
- b) (+) Central Excise Duty, if any
- c) (+) VAT/Central Sales Tax (On-Sub Total Price, Including excise duty, if any)
- d) (+) Freight & Insurance Charges upto place of delivery, if any
- e) (+) Installation, Commissioning & Training Charges, if any
- f) Grand Total F.O.R. Guwahati Biotech Park, Price

##### 2.1.2 The equipment has to be delivered at Guwahati Biotech Park premises. Unloading the item from the transport is under the risk of supplier.

##### 2.1.3 Vague terms like "packing, forwarding, transportation extra" without mentioning the specific amount will not be accepted. Such offers shall be treated as incomplete and rejected. Bidders shall indicate their rates in clear/ visible figures as well as in words and shall not alter/overwrite/make cutting in the quotation. In case of a mismatch, the rates written in words will prevail.

#### 2.2 Rates quoted for imported items should be on DDP, (Guwahati Biotech Park) basis or FOB/FCA (named port of shipment) / CIF/CIP, (named port of shipment) along with all incidental charges to be borne out for door delivery upto GBP as per price schedule form at Annexure-II with the following details:

- (a) Ex-works value
- (b) Documentation & handling Charge, if any
- (c) Estimated Overseas Freight.
- (d) Estimated Overseas Insurance charge (in case the firm holds open insurance policy, the insurance certificate relating to the consignment will have to be provided).
- (e) Custom duty if applicable and custom clearance charges if any.
- (g) Inland Freight/Transportation & and insurance charges upto Guwahati Biotech Park,
- (h) loading and unloading at both terminals and other charges if any.
- (i) Installation, Commissioning & Training Charges, if any
- (j) The agency Commission if any.
- (k) **Grand Total:** Door delivery Price (DDP, Guwahati Biotech Park)

##### 2.2.1 The INCOTERMS used in this bid document shall be governed by the rules prescribed by International Chambers of commerce (ICC, Paris).

##### 2.2.2 **Entry Tax:** Assam Govt. Entry Tax- usually@ 2% (to be paid by GBP, not by the supplier), wherever applicable, will be added while evaluating cost status of the concerned equipment to be supplied by suppliers from outside the State of Assam.

##### 2.2.3 **CUSTOMS/EXCISE DUTY:** The Organization is exempted from payment of Customs / Central Excise Duty vide GOI Notification No. 51/96-Customs, dated 23.07.1996 and Central Excise duty exemption in terms of Govt. notification No. 10/97-Central Excise, dated 01.03.1997 against valid DSIR Certificate No. TU/V/RG-CDE (1118)/2013, dated 03.01.2014.

#### 2.3 EVALUATION OF BIDS:

##### 2.3.1 The bids will be evaluated in two stages viz. Technical Bid Evaluation & Price bid Evaluation. The Technical bids will be evaluated soon after opening of bids and during such evaluations any clarification or query maybe raised by GBP in email or letter/fax. etc. The bidder should co-ordinate and reply in writing against such queries at the earliest possible time facilitating the evaluation process. Such written queries & replies will be annexed with the bid and shall be treated as the part of the bid.

##### 2.3.2 The technical bids will be evaluated to examine the following parameters:

- a. whether the bidder meets the eligibility criteria
- b. whether the bidder has submitted EMD and Tender fee wherever applicable
- c. whether the bidder has submitted all necessary documents required as per the tender
- d. whether the bid document and all prescribed Formats(except the price schedule formats) are filled and signed & stamped
- e. whether the quoted specifications are compatible to tender specifications etc.

Combined tender for more than one item in the same envelope & Bids received late will be summarily rejected.

2.3.3 The price bids of technically qualified bidders will be opened in a specified date which will be intimated to the qualified bidders. Also the price bid opening date will be notified in the official website. The bidder or their authorized representative may attend the price bid opening session.

2.3.4 Bidders attempt to negotiate price or any change in price already quoted will not be entertained during price bid evaluations. Also no information regarding the status of the bidder will be disclosed until the award of the contract.

2.3.5 The bids will be evaluated on F.O.R. destination basis. For the purpose of evaluation, all bid currencies will be converted into Indian rupees. The selling exchange rate on the date of opening of the Price bids will be considered for conversion of foreign currencies.

2.3.6 In case of Indigenous supplier, the total bid value will be **F.O.R., Guwahati Biotech Park price** which is inclusive of 3years warranty at free of cost, the cost of all essential accessories/spares & consumables for complete installation and demonstration of the equipment and charges for installation, demonstration and training if any. GBP will provide only floor space/bench and electrical arrangement only.

2.3.7 In case of goods being directly offered from abroad, the total bid value will be DDP, Guwahati Biotech Park price in foreign currencies as per Price Schedule format at annexure-II. The bidder in such cases should include the Custom Duty & Custom clearance charges, Freight & Insurance Charges and all other incidental charges to be incurred for door delivery, installation, demonstration & Training of the equipment.

2.3.8 In case of goods being offered from abroad through Indian agent the total bid value will be:

a. FOB/FCA, (Named port of destination) price + Sea/Air Freight & Insurance Charges + Custom Duty & Custom Clearance charges+ Agency commission if any + Door delivery & Insurance charges upto GBP + Installation, commissioning & Training charges if any + Cost of complete accessories/spares & consumables for complete installation & demonstration of the equipment.

Or

b. CIP/CIF, (Named port of destination) price + Custom Duty & Custom Clearance charges+ Agency commission if any + Door delivery & Insurance charges upto GBP + Installation, commissioning & Training charges if any + Cost of complete accessories/spares & consumables for complete installation & demonstration of the equipment. In such cases all incidental charges incurred in India shall be paid to suppliers Indian Agent in Rupees

2.3.9 In case bidder agrees to deliver the item on CIF/CIP (named port of shipment) with no extra cost or incidental charges towards door delivery & installation of the equipment, the order will be placed on CIP/CIF term.

2.3.10 Otherwise GBP may at its discretion may place the order on CIF/CIP term in foreign currencies and pay the other incidental charges to be incurred in India to the suppliers Indian Agent after complete installation & demonstration of the equipment.

## 2.4 DELIVERY & INSTALLATION

2.4.1 For indigenous Supplier the entire job comprising delivery & installation has to be done at Guwahati Biotech Park within 30 days from the date of the order. In case of any damage or late delivery, the Administration of GBP reserves the right not to accept the consignment.

2.4.2 **In case of imported item, the shipment has to be delivered at Guwahati Biotech Park, Technology complex, IIT Guwahati within 45 days from the date of establishment of LC or FDD.**

- 2.4.3 For purchase order placed on CIP/CIF, basis, the vendor must take necessary steps for custom clearance at Air/Sea Port and arrange to make door delivery of the equipment at Guwahati Biotech Park at their own cost. Guwahati Biotech Park will arrange to provide necessary custom clearing documents and road permit as and when necessary. No other delivery term shall be accepted. The Price evaluation will be carried out only on the basis of the Lump sum door delivery cost.
- 2.4.4 For arrangement of custom clearing document and Road permit one set of original dispatch document has to be sent to Guwahati Biotech Park office soon after material is shipped.
- 2.4.5 While transshipment will be allowed, part shipment will not be allowed.

2.5 **SAFE DELIVERY OF GOODS::**

All aspects of safe delivery shall be the exclusive responsibility of the supplier. The supplier shall ensure that packing shall be sufficient to withstand rough handling during transit and exposure to different weather conditions. Also adequate markings & instructions shall be provided outside the boxes for proper handling during transit. At the destination site the packing will be opened in presence of Guwahati Biotech Park user/representative. The proper commissioning will be the basis for receipt in good condition. In case of any damage, GBP reserves the right not to accept the consignment.

2.6 **SHIPMENT/DELIVERY DOCUMENTS:**

- 2.6.1 For goods being supplied from within India the supplier has to furnish the following documents:
- Three copies of Invoice in original indicating inter-alia description of goods, specifications, quantity, unit price, VAT/CST, Service Tax wherever applicable and total amount etc.
  - Packing list
  - Certificate of country of origin
  - Insurance certificate wherever applicable
  - Railway receipt/Consignment Note
  - Manufacturer's Warranty certificate & In-house inspection certificate &
  - Any other document as per the terms of contract.

Within 24hrs of dispatch, the supplier has to intimate the dispatch details to the purchaser through email/fax/courier etc.

- 2.6.2 For goods being supplied from abroad: Within 24hrs of dispatch, the supplier shall notify the purchaser the complete details of dispatch through email/fax and supply the following documents by courier/registered post etc.
- Three copies of Invoice in original giving full details of goods supplied as per order
  - Packing list
  - Certificate of country of origin
  - Insurance certificate wherever applicable
  - Manufacturer's Warranty certificate & In-house inspection certificate
  - Airway Bill/Bill of lading indicating date of shipment, port of loading & Port of discharge
  - Name of the Vessel/Carrier
  - Approximate date of arrival and any other document as per terms of the order.

Also the supplier has to provide the details of their clearing & forwarding agent (CHA) to furnish the custom clearing documents in a manner to avoid demurrage or warehouse charges at Airport.

2.7 **LIQUIDATED DAMAGES**(for both foreign & indigenous supplier)

Time and date of supply & completion of Installation shall be the essence of the CONTRACT. In the event of delayed delivery, installation & commissioning i.e. after the expiry of the period as agreed by both parties, the vendor shall be liable for a penalty deduction at a percentage of the value of the undelivered equipment subject to a maximum of 10% as detailed below:

- @ 1% to one week
- @ 2.5% upto two weeks
- @ 5% upto three weeks
- @ 10% for four weeks and above

For the purpose of this clause, part of the week is considered as a full week.

**2.8 PRE-INSTALLATION REQUISITES**(both foreign & indigenous)

Offers shall include all the necessary relevant accessories/spares & consumables for installation of the equipment in a manner such that the installation shall not degrade the characteristics of operation of the equipment under ambient conditions. Pre-installation requisites (electrical/floor/space/air-conditioning etc.) if any should be invariably mentioned clearly.

**2.9 TRANSIT INSURANCE:**

Both foreign & indigenous supplier has to insure the consignment against all risk such as theft, loss or damage during transit. In the event of a claim on Insurance companies, the supplier has to co-ordinate with the purchaser giving full details of dispatch to lodge a complaint. The consignment will be opened in presence of suppliers representative to ascertain any loss or damage.

**2.10 WARRANTY & GUARANTEE:**

2.10.1 The warranty shall remain valid for 36 months from the date of installation or 39 months from the date of shipment whichever is earlier. The warranty shall cover all items (i.e. the equipment and its spares, UPS, Computer, Printer etc.) except consumables/accessories required for installation of the equipment.

2.10.2 The warranty on the associated software should cover providing the upgraded versions at free of cost during the warranty period.

2.10.3 Materials & workmanship: Supplier shall fully warrant that all the stores supplied under the CONTRACT shall be new and of first quality according to the specifications and shall be free from defects (even concealed faults, materials & workmanship). The supplier shall provide a Guarantee certificate of the equipment and its accessories against poor workmanship, bad quality of material used, faulty design and performance figures.

2.10.4 Should any defects be noticed in work, within warranty period GBP shall inform SUPPLIER and SUPPLIER shall immediately on receipt of such intimation, depute their personnel within 3 days to investigate the causes of defects and arrange rectification/replacement/modification of the defective material at site without any cost to GBP within a reasonable period. GBP shall be free to take such corrective action as may be deemed necessary at suppliers' risk and cost after giving notice to the supplier.

2.10.5 Damage to the work due to incomplete and erroneous instructions issued by the supplier will be the responsibility of the supplier and will be treated according to the provisions of warranty clause. Normal wear and tear shall not come under purview of this clause.

2.10.6 In case defects are of such nature that material shall have to be taken to suppliers' works for rectification etc., supplier shall take the MATERIAL at his costs after giving necessary undertaking. GBP shall, if so required by the supplier, dispatch the material by quickest mode at their risk. Material thereof replaced shall have further warranty for a period of as specified earlier from the date of acceptance.

2.10.7 For goods being supplied from abroad the principal should have local logistic support & service personnel to provide spares and to undertake AMC beyond warranty period. The name of such Indian agent and contact details should be provided in the offer.

2.10.8 Supplier shall be liable if it is found failed to honor his obligation to repair or replace defective goods within a reasonable period of time or if supplier refuse to carry out work under the guarantee clause and implied guarantee conditions.

**2.11 INSPECTION/TESTING & ACCEPTANCE OF MATERIAL**

Inspection of material will be carried out by the competent personnel appointed by GBP. The material will be accepted only after the same has been found satisfactory after inspection and duly signed and sealed by the inspecting authority on completion of Installation & commissioning. The supplier shall ensure that the material to be supplied against this CONTRACT shall be individually inspected, tested and analysed in terms of the specifications attached to the tender and the relevant codes and practices specified therein by expression or implication. Supplier should provide Inspection report/ or Quality Assurance certificate from Manufacturer at the time of inspection.

## 2.12 **CHANGE ORDER (REVISION OR AMENDMENT)**

A change order will be initiated only in case (i) GBP directs the supplier in writing (amendment/revision), to include any addition to the Scope of Work covered under this CONTRACT or delete any part of the scope of the work under the CONTRACT (ii) supplier requests to delete any part of the order which will not adversely affect the operational capabilities of the facilities and if the deletions proposed are agreed to by GBP and for which cost and time benefits shall be passed on to GBP.

## 2.13 **QUANTITY IN ORDER;**

Normally quantity in orders shall be as per Checklist/BOQ mentioned in the Annexure-XI. However GBP reserves the right to vary the quantity at the time of placing the orders without changing the unit rates & other terms.

## 2.14 **PAYMENT SCHEDULE:**

2.14.1 The Invoice raised by the Supplier shall be addressed to Chief Executive Officer, Guwahati Biotech Park, Technology complex, IIT Guwahati, Guwahati-781039 in quadruplicate.

2.14.2 **In case of indigenous supplier** bills shall be submitted by the vendor on completion of INSTALLATION. Payment against clear undisputed invoice/bills submitted by the vendor will be made by GBP within 30 working days from the date of submission of bill/invoices, complete in all respects, generally through A/c payee cheque. In case payment is required by DD, the draft commission will be deducted from bill amount. All applicable taxes and penalties will also be deducted from the bill at source.

2.14.3 For vendors within the state of Assam, appropriate VAT will be applicable (to be deducted at source).

2.14.4 **Please note as per Organization's norm advance payment is not allowed for indigenous purchase.**

2.14.5 **In case of Imported Goods, payment above \$ 10,000.00 shall be made by** an irrevocable letter of credit through any overseas branch of state bank of India with unrestricted provision or through FDD as per terms and conditions below;

2.14.6 In case of payment by LC, 90% of the price will be paid against receipt of proof of dispatch such as AWB, Invoice, packing List, Insurance certificate etc. The remaining 10% shall be released only after receipt of satisfactory installation & commissioning report of the equipment.

2.14.7 In case of payment by FDD, 100% payment by FDD will be made on the request made by the supplier. In this case on receipt of acknowledgement an FDD will be established for total ordered value, thereupon a scanned copy of FDD will be sent to enable the supplier to send the materials. The original FDD will be sent only after receipt of satisfactory installation & commissioning report of the equipment.

2.14.8 **Please note that FDD/LC will not be opened unless and until Letter of acknowledgement in original is received at Guwahati Biotech Park, directly from the Principal (even in case of firms having subsidiary office in India). The Indian agents are therefore advised to submit quotations after consultation with their respective principals.**

2.14.9 **Country of Origin:** While the country of origin will not be insisted, the same however will have to be stated in the original Invoice for payment through LC.

2.14.10 **LC Amendment:** LC/FDD amendment charges due to mistake on the part of the supplier, if any, will have to be borne by the supplier.

2.14.11 **Below \$10,000.00 Wire transfer as given below:**

90% of the price will be paid in advance against proof of dispatch such as AWB, Invoice, Packing list, Insurance certificate etc. from a scheduled bank provided by the supplier/Indian agent. The remaining 10% shall be released only after receipt of Inspection Report or satisfactory installation & commissioning report of the equipment.

2.14.12 **In all cases, the bidders should invariably provide the following information:**

- a. Name & complete address of the supplier as per bank records
- b. Name & Address of the bank with Branch details
- c. Bank Account No. and indicate the core Bank Account no. if any.
- d. IFSC/NEFT/MICR code etc.
- e. PAN/TIN & Sales Tax Registration no. in case of Indigenous suppliers.

- 2.15 **CATALOGUES/MANUAL:**  
Tenderer shall submit original printed manufacturers' technical specifications and catalogues, operation manual, literature, diagrams, photographs etc. of goods offered thereby facilitating technical evaluations.
- 2.16 **SHORT SHIPMENT:**  
If any short-shipment is noticed, the same will be arranged immediately with all charges to this effect to be borne by supplier/Indian agent.
- 2.17 **GENUINE PRICING** (both foreign & indigenous supplier):  
Vendor is to ensure that quoted price is not more than the price offered to any other customer in India to whom this particular item has been sold. Copy of the latest price list for the quoted item, applicable in India, must be enclosed with your offer.
- 2.18 **CONDITIONAL TENDERS** (both foreign & indigenous):  
Conditional tenders shall not be accepted on any ground and shall be rejected straightway. In other word, printed conditions mentioned in the tender bids submitted by vendors will not be binding on Guwahati Biotech Park. All the terms and conditions for supply, payment terms, penalty etc. will be as those mentioned herein and no change in the terms and conditions by the vendors will be acceptable.
- 2.19 **ENQUIRY DURING EVALUATION:**  
No enquiry shall be made by the bidders during the course of evaluation of the tender till the final decisions conveyed to the successful bidder(s). However, the committee/its authorized representative can make any enquiry/seek clarifications from the bidders. In such situation, the agency shall extend full co-operation.
- 2.20 **TERMINATION OF DEFAULT:**
- 2.20.1 Default is said to have occurred
- If the supplier fails to deliver any or all of the services within the time period(s) specified in the purchase order or any extension thereof granted by GBP.
  - If the supplier fails to perform any other obligation(s) under the contract.
- 2.20.2 If the vendor, in either of the above circumstances, does not take remedial steps within a period of 30 days after receipt of default notice from **CEO, Guwahati Biotech Park** (or takes longer period in spite of what GBP may authorize in writing), GBP may terminate the contract/purchase order in whole or in part and forfeit the EMD/PBG as applicable. In addition to above, GBP may at its discretion also take the following actions: GBP may procure, upon such terms and in such manner, as it deems appropriate, goods similar to the undelivered items/products and the defaulting supplier shall be liable to compensate GBP for any extra expenditure involved towards goods and services obtained.
- 2.21 **APPLICABLE LAW & ARBITRATION**(both foreign & indigenous):
- 2.21.1 The contract shall be governed by the laws and procedures established by Govt. of India and subject to exclusive jurisdiction of competent Court & forum in Guwahati, India only.
- 2.21.2 In case of dispute or difference arising between Purchaser and a Supplier, such disputes shall be settled in accordance with rules and provision under the **Indian Arbitration & Conciliation Act., 1996**.
- 2.21.3 Any dispute arising out of this purchase shall be referred to the CEO, Guwahati Biotech Park, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an arbitrator, who should be acceptable to both the parties, to be appointed by the CEO, GBP. The decision of such arbitrator shall be final and binding on both the parties.
- 2.21.4 In case any dispute arising in between purchaser and a foreign bidder cannot be settled under the provision mentioned above, such disputes shall be settled in accordance with the provision of UNCITRAL (United Nations Commission on International Trade law).

**2.22 LIABILITY IN CASE OF JOINT VENTURE, CONSORTIUM OR ASSOCIATION/AMALGAMATION/ ACQUISITION & PATENT RIGHT:**

2.22.1 If the supplier is a Joint venture, consortium or association, all of the parties concerned shall be jointly and severally liable to GBP for fulfillment of the obligations under the contract. The composition of the Joint venture, consortium or association shall not be altered without prior consent of the purchaser.

2.22.2 Amalgamation/Acquisition: In the event of Manufacturer/Supplier proposes for amalgamation, acquisition or sale of its business to any firm during the performance of the contract, the buyer/successor of the Principal company are liable for fulfillment of obligations under the contract.

2.22.3 Patent Indemnity: The supplier shall also indemnify and hold harmless the purchaser and its employees and officers from and against any or all suits, actions or administrative proceedings, claims, demands, losses, damages, costs and expenses of any nature including attorneys fees and expenses, which the purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the contract by reason of:

- a. the installation of the Goods by the Supplier or the use of the Goods in India; and
- b. the sale in any country of the products produced by the goods.

**2.24 FORCE MAJEURE**

2.24.1 The supplier shall not be liable for failure to perform its obligations under the contract in the event of Force Majeure. The term "Force Majeure" as employed herein shall mean acts of God, War, Civil Riots, Fire directly affecting the performance of the supplier, Flood and Acts and Regulations of respective government of the two parties, namely GBP and the supplier.

2.24.2 Upon the occurrence of such cause and upon its termination, the party alleging that it has been rendered unable as aforesaid thereby, shall notify the other party in writing, the beginning of the cause amounting to Force Majeure as also the ending of the said clause by giving notice to the other party within 72 hours of the ending of the cause respectively. If deliveries are suspended by Force Majeure conditions lasting for more than 2 (two) months, GBP shall have the option of canceling this CONTRACT in whole or part at his discretion without any liability at his part.

**2.25 CONSIDERATION OF TENDER**

2.25.1 **The acceptance of the offers will rest solely with the CEO**, Guwahati Biotech Park, who in the interest of the organization reserves the right to himself to reject or partially accept any or all the quotations received without assigning any reason.

2.25.2 Guwahati Biotech Park decision shall be final and binding and no claims/representations in this regard shall be entertained. Guwahati Biotech Park reserves the right to accept or reject any or all the bids and to withdraw or cancel entire bidding process without assigning any reasons whatsoever. Mere submission of bid by the bidder does not vest any right in them for being selected.

**Sd/  
Chief Executive Officer  
Guwahati Biotech Park**

## Proforma of Bank Guarantee

Ref. No.....

Bank Guarantee No.....

Dated .....

To  
 Chief Executive Officer  
 Guwahati Biotech Park  
 Technology complex, IIT Guwahati  
 Guwahati781039

Dear Sir,

Whereas **Guwahati Biotech Park** having its office at Technology Complex, IIT Guwahati, Guwahati-781039 (hereinafter called 'PURCHASER' which expression shall unless repugnant to the context or meaning thereof include all its successors, administrators, executors and assignees) has floated a Tender No. \_\_\_\_\_ and M/s \_\_\_\_\_ having Head/Registered office at \_\_\_\_\_ (hereinafter called the 'Bidder' which expression shall unless repugnant to the context or meaning thereof mean and include all its successors, administrators, executors and permitted assignees) have submitted a bid Reference No..... and Bidder having agreed to furnish an unconditional and irrevocable Bank Guarantee of Indian Rupees (in figures)\_\_\_\_\_ (Indian Rupees(in words)\_\_\_\_\_ only) as a security for compliance with the Supplier's performance obligation in accordance with the Purchase order no.....dated..... which amount is liable to be forfeited on the happening of any contingencies mentioned in said documents.

We (name of the bank)\_\_\_\_\_ registered under the laws of\_\_\_\_\_ having head/registered office at \_\_\_\_\_ (hereinafter referred to as "the Bank" which expression shall, unless repugnant to the context or meaning thereof, include all its successors, administrators, executors and permitted assignees) guarantee and undertake to pay immediately on first demand by Guwahati Biotech Park, the amount of Indian Rs....(in figures) \_\_\_\_\_ (Indian Rupees(in words) \_\_\_\_\_ only) in aggregate at any time without any demur and recourse, and without Guwahati Biotech Park having to substantiate the demand. Any such demand made by Guwahati Biotech Park shall be conclusive and binding on the Bank irrespective of any dispute or difference raised by the Bidder.

The Bank confirms that this guarantee has been issued with observance of appropriate laws of the country of issue. The Bank also agree that this guarantee shall be irrevocable and governed and construed in accordance with Indian Laws and subject to exclusive jurisdiction of Indian Courts of the place from where tenders have been invited.

This guarantee shall be irrevocable and shall remain in force upto \_\_\_\_\_ which includes thirty days after the period of bid validity and any demand in respect thereof should reach the Bank not later than the aforesaid date.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is limited to Indian Rs...(in figures)\_\_\_\_\_ and our guarantee shall remain in force until (indicate the date of expiry of bank guarantee) \_\_\_\_\_.

Any claim under this Guarantee must be received by us before the expiry of this Bank Guarantee. If no such claim has been received by us by the said date, the rights of Guwahati Biotech Park under this Guarantee will cease. However, if such a claim has been received by us by the said date, all the rights of Guwahati Biotech Park under this Guarantee shall be valid and shall not cease until we have satisfied that claim. In witness whereof, the Bank, through its authorised officer, has set its hand and stamp on this ..... day of ..... at .....

WITNESS

\_\_\_\_\_  
 (Signature)  
 Full name and official  
 address (in legible letters)

\_\_\_\_\_  
 (Signature)  
 Full name, designation and  
 official address (in legible  
 letters) with Bank stamp.

Dated .....



Annexure-II

**Price Schedule For Goods Being Offered From Abroad**

Name of the Bidder:

NIT No. & Date:

Offer/Quotation No. & Date:

Name of the Item:

Make/Model No.:

Country of origin:

Currency:

SL No.	Description of Items			Qty.	Unit.	Rate	Amount
	Part No./Catalogue No.	Item Name	Specifications				
	Required Spares/ Consumables (if any)						
	Accessories (if any)						
	Additional Items						
	Total Ex-works price						
	Less: Discount if any						
	Net Ex-work Price						
	Packing & forwarding charges if any						
	FOB/FCA .....(named port) price						
	Overseas Freight & Insurance						
	Charges for inland transportation, insurance up to Guwahati Biotech Park						
	CIP/CIF, .....(named port in India)						
	Approximate Custom duty if applicable						
	Custom Clearance charges if any						
	Inland Freight upto GBP if any						
	Installation , Commissioning and training Charges, if any						
	Total DDP, Guwahati Biotech Park Price						

Signature & seal of Bidder

**Note: Bidder may use additional rows/sheets if necessary keeping the format same.**

**ADDITIONAL INFORMATON:**

Term	Condition	Remark if any
Validity of Price bid Upto:		
Delivery term(INCOTERM):		
Delivery Schedule:		
Mode of Shipment; (Sea/Air/Road/Rail)		
Port of Destination/Discharge		
Final destination/Place of delivery	Guwahati Biotech Park (GBP), Technology Complex, IIT Guwahati	
Warranty Period:		
Payment Term:		
Payment option: (LC/FDD etc.)		
Annual Maintenance Charges:	Comprehensive	
	Non-Comprehensive	
Indian agents name & address		

**Note:**

- Quoted price should be inclusive of 3yrs Warranty at free of Cost.
- GBP has a valid DSIR certificate and is Exempted from Custom Duty in terms of Govt. notification No.51/96-customs dated 23.01.1996.
- In case of bidder quote in CIP/CIF, (named port) term, the other charges such as agency commission if any, Custom duty & clearance charges, Inland freight & insurance charges upto GBP, Installation & Commissioning charges if any will be paid in Indian Currencies.
- The Indian agent's commission shall be paid in Indian Rupees only based on the Exchange Rate prevailing on the date of negotiation of documents.
- The cost of optional items shall be indicated separately.
- The L1 bid will be evaluated by comparing the landing cost of all bids in the same currency i.e.in Rupees. The landing cost will comprise of Cost of the equipment along with complete accessories for installation of the same+ all charges, taxes & duties etc.
- The selling exchange rate on the date opening of price bid will be considered for conversion of foreign currencies.

Signature &amp; seal of Bidder

**Annexure-III**

**Price Schedule For Goods Being Offered From India.**

**Name of the Bidder:**

**NIT No. & Date:**

**Offer/Quotation No. & Date:**

**Name of the Item:**

**Make/Model No.:**

**Country of origin:**

SL No.	Description of Items			Qty.	Unit.	Rate	Amount	VAT/CST & other taxes applicable if any	Total
	Part No./ Catalogue No.	Item Name	Specifications						
	Required Spares/Consumables (if any)								
	Accessories (if any)								
	Additional Items								
	Net Ex-work Price								
	Packing & forwarding up to Guwahati Biotech Park, if any								
	Charges for inland transportation, insurance up to Guwahati Biotech Park								
	Installation Commissioning and training Charges, if any								
	Total F.O.R., Guwahati Biotech Park Price								
	Total Bid price (F.O.R., GBP) in words.....								

Signature & seal of Bidder

**Note: Bidder may use additional rows/sheets if necessary keeping the format same.**

**ADDITIONAL INFORMATON:**

<b>Term</b>	<b>Condition</b>		<b>Remark if any</b>
<b>Validity of Price bid Upto:</b>			
<b>Delivery term:</b>			
<b>Delivery Schedule:</b>			
<b>Mode of Shipment; (Rail/Road/Air)</b>			
<b>Port of Destination/Discharge</b>			
<b>Final destination/Place of delivery</b>	<b>Guwahati Biotech Park (GBP), Technology Complex, IIT Guwahati</b>		
<b>Warranty Period:</b>			
<b>Payment Term:</b>			
<b>Annual Maintenance Charges:</b>	<b>Comprehensive</b>		
	<b>Non-Comprehensive</b>		

**Note:**

- a. Quoted price should be inclusive of 3yrs Warranty at free of Cost.
- b. GBP has a valid DSIR certificate and is Exempted fully from Excise duty against Notification No.10/97 of Central Excise Act.
- c. For suppliers from outside the state of Assam, entry tax @2% will be added during evaluation for arriving their total bid price.

Signature &amp; seal of Bidder

**Annexure-IV**

**Bidder Information Form**

- a) The Bidder shall fill in this form in accordance with the instructions indicated below. No alternations to its format shall be permitted and no substitutions shall be accepted. This should be done of the letter head of the firm

Date: (of Bid Submission)

Tender No.: (insert number from invitation for bids)

Page 1 of \_\_\_\_\_ pages

1. Bidder's Legal Name:
2. In case of JV, legal name of each party:
3. Bidder's actual or intended Country of Registration:
4. Bidder's Year of Registration:
5. Bidder's Legal Address in Country of Registration:
6. Bidder's Authorized Representative Information  Name: (Authorized Representative's name)  Address: (Authorized Representative's Address)  Telephone/Fax numbers: (Authorized Representative's Telephone/Fax numbers)  Email Address: (Authorized Representative's Email Address)
7. Attached are copies of original documents of: (check the boxes of the attached original documents)  Articles of Incorporation or Registration of firm named in 1, above , in accordance with ITB Clauses ... and ...

Signature of Bidder \_\_\_\_\_

Name \_\_\_\_\_

Business Address

**Annexure-V**

**Manufacturer's Authorization Form**

The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.

Date: (date of Bid submission)

Tender No.: (insert number from invitation for bids)

To: (Complete name and address of Purchaser)

Whereas

We (complete name of the manufacturer), who are official manufacturers of (type of goods manufactured), having factories at (full address of manufacturer's factories), do hereby authorize (complete name Bidder) to submit a bid the purpose of which is to be provide the following Goods, manufactured by us (name and or brief description of the goods), and to subsequently negotiate and sign the contract.

We hereby extend our full guarantee and warranty in accordance with Clause ..... of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: (signature(s) of authorized representative(s) of the Manufacturer)

Named: (complete name(s) of authorized representative(s) of the Manufacturer)

Title:

Duly authorized to sign this Authorization on behalf of: (complete name of Bidder)

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ (insert date of signing)

**Annexure-VI**  
**BID SECURITY FORM**

Whereas \_\_\_\_\_  
(Hereinafter called the tenderer)

Has submitted their offer dated \_\_\_\_\_

For the supply of \_\_\_\_\_  
(Hereinafter called the tender)

Against the purchaser's tender enquiry no. \_\_\_\_\_

KNOW ALL MEN by these presents that WE \_\_\_\_\_ of  
\_\_\_\_\_ having our registered office at  
\_\_\_\_\_ are bound unto \_\_\_\_\_ (hereinafter called the  
"Purchaser")

In the sum of \_\_\_\_\_

For which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

The Conditions of this Obligation are:

- (1) If the tenderer withdraws or amends, impairs or derogates from the Tender in any respect within the period of validity of this tender.
- (2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:
- (3) If the tenderer fails to furnish the Performance Security for the due Performance of the contract.
- (4) Fails or refuses to accept/execute the contract.

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

\_\_\_\_\_  
(Signature of the authorized officer of the Bank)  
Name and designation of the officer

Seal, name & address of the Bank and address of the Branch

**Annexure-VII**  
**BIDDER'S PAST SERVICES (SIMILAR) PROFORMA**

**Performance Statement Form**

**(For a period of last 3 years)**

**Name of the Firm.....**

Order Placed by (full address of Purchaser)	Order No. and Date	Description and quantity of ordered equipment	Value of order	Date of completion of delivery as per contract	Date of actual completion of delivery	Remarks indicating reasons for late delivery, if any	Has the equipment been installed satisfactory? (attach a certificate from the Purchaser/Consignee	Contact person along with Telephone No.,FAX No. and email-address

Signature and Seal of the manufacturer/ Bidder.....

Place:

Date:



**Annexure-VIII**

**Deviation Statement Form**

1) The following are the particulars of deviations from the requirements of the tender specifications:

Clause	Deviation	Remarks (Including Justification)

Place:

Date:

Signature and Seal of the  
Manufacturer/Bidder

NOTE:

- 1) Where there is no deviation, the statement should be returned duly signed with an endorsement indicating "No Deviation".

**Annexure-IX**

**Service Support Detail Form**

Sl No.	Nature of training imparted	List of similar type equipments serviced in the past 3 years	Address, Telephone Nos., FAX Nos. and email address

Signature and Seal of the Manufacture/Bidder .....

Place:

Date:

**Annexure-X**  
**Bid Form**

(The Bidder shall fill in this form in accordance with the instructions indicated no. alternations to its format shall be permitted and no substitutions shall be accepted)

Date: (date of Bid Submission)  
Tender no.: (NIT No.)  
To: (complete name of Purchaser)

We, the undersigned, declare that:

- (a) We have examined and have no reservation to the Bidding Documents, including Addenda No.: (insert the no. and issuing date of each Addenda).
- (b) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedule specified in the schedule of requirements the following Goods and related Services (a brief description of the Goods and Related Services).
- (c) The total price of our bid, excluding any discounts offered in item (d) below is: (the total bid price in words and figures, indicating the various amounts and the respective currencies).
- (d) The discounts offered and the methodology for their application are:  
**Discounts.** If our bid is accepted, the following discounts shall apply. (specify in details each discount offered and the specific item of the Schedule of Requirements to which it applies).
- (e) Our bid shall be valid for the period of **120 days** and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (f) If our bid is accepted, we commit to obtain a performance security in accordance with ITB Clause no.... and GCC Clause ... for the due performance of the Contract.
- (g) The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract: (insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity).

Name of Recipient	Address	Reason	Amount

(if none has been paid or is to be paid, indicate "none")

- (h) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (i) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Signed: (insert signature of person whose name and capacity are shown)  
In the capacity of (insert legal capacity of person signing the bid submission form)

Name: (insert complete name of person signing the bid submission form)

Duly authorized to sign the bid for and on behalf of: (insert complete name of bidder)

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ (insert date of signing)

**Annexure-XI**

**CHECKLIST (BOQ)**

<b>ITEM NO.</b>	<b>NAME OF THE ITEM</b>	<b>PAGE NO.</b>
<b>BIOPROSPECTING FACILITY</b>		
BP-1	DIAPHRAGM PUMP	30
BP-2	SOXHLET UNIT	31
BP-3	UV LAMP	32
BP-4	AUTOPROGRAMABLE CRYOCAN	33
BP-5	CULTURE ROOM STERILIZER	34
BP-6	VACUUM OVEN	35
BP-7	MECHANICAL STIRRER WITH SPEED CONTROL	36
BP-8	REACTOR AUTOCLAVE	37
BP-9	HYDROGENATION APPARATUS	38
BP-10	DIGITAL ELECTRONIC BALANCE	39
BP-11	GEL ROCKER	40
BP-12	SEMI DRY GEL TRANSFER UNIT	41
BP-13	RECIPROCAL DESTAINER	42
BP-14	MICROWAVE OVEN	43
BP-15	HIGH VACUUM PUMP	44
BP-16	DIGITAL WEIGHING BALANCE	45
BP-17	MAGNETIC STIRRER	46
BP-18	DIGITAL BATH PLATE	47
BP-19	KINETIC BATH PLATE	48
BP-20	NUTCHE FILTER 30 Ltrs. SS WITH STAND	49
BP-21	FACS	50-51
BP-22	ROBOTIC LIQUID HANDLING SYSTEM	52-53
<b>MICROPROPAGATION FACILITY</b>		
MP-1	PASS BOX	54
MP-2	BALANCE	55
MP-3	GROWTH CHAMBER WITH RACKS	56
MP-4	GREEN HOUSE FACILITY	57-59
<b>HERBAL EXTRACTION FACILITY</b>		
HE-1	VACUUM DRYER 48 TRAYS	60-61
HE-2	HOT AIR OVEN	62
HE-3	MECHANICAL PLATFORM BALANCE OF 500 KG CAPACITY	63
HE-4	DIGITAL PLATFORM BALANCE OF 200KG	64
HE-5	HAMMER MILL WITH DUST EXTRACTION SYSTEM OF 300 KG/HR	65
HE-6	SS-316 OPEN TOP AND BOTTOM DISHED END VESSEL WITH DISTILLATION COLUMN AND RECEIVER ASSEMBLY ( VESSEL = 500 LT.	66
HE-7	SS-304 CYLINDRICAL TANKS FOR STORAGE OF 1000 LTS	66
HE-8	SS-304 FILTER PRESS WITH 18" DIAMETER WITH TRANSFER PUMPS	66
HE-9	PROCESS PUMP SETS	66

HE-10	PORTABLE MECHANICAL SIFTER OF 20" DIAMETER	67
HE-11	DIESEL FIRED BOILER WITH 600 KG/HE CAPACITY	68
HE-12	TRAY DRYER – 96 TRAYS	69
HE-13	STIRRERS TABLE TOP	70
HE-14	SPRAY DRYERS (50LT/HR)	71-72
HE-15	FALLING FILM EVAPORATOR	73
HE-16	ROTAVAPOR (5L)	74
HE-17	STIRRERS PILOT SCALE	75
HE-18	ROTAVAPOR (50L)	76
HE-19	DISTILLATION EQUIPMENT	77
HE-20	VACUUM OVEN	78
<b>FERMENTATION FACILITY</b>		
FF-1	BOD INCUBATOR	79
FF-2	PASS BOX	80
FF-3	SHAKER	81
FF-4	WEIGHING BALANCE	82
FF-5	FERMENTER (5 L)	83-84
FF-6	FERMENTER (40 L)	85-86
<b>DOWNSTREAM FACILITY (COMPATIBLE WITH THE ABOVE SPECIFIED FERMENTORS)</b>		
FF-7	PERISTALTIC PUMP	87
FF-8	TFF SYSTEM'	88-89
FF-9	HOMOGENIZER	90
FF-10	FREEZE DRYER	91
FF-11	ULTRA FILTRATION SYSTEM	92-93
FF-12	FRENCH PRESS	94
FF-13	VACUUM PUMP	95
<b>PURIFICATION FOR THE ABOVE FACILITY</b>		
FF-14	FPLC SYSTEM	96-97
FF-15	CHROMATOGRAPHY UNIT	98-99
FF-16	FIXED GEL FILTRATION AND ION EXCHANGE COLUMN	100
<b>BIOINFORMATICS FACILITY</b>		
BI-1	HARDWARE	101
BI-2	SOFTWARE	101
<b>UTILITIES</b>		
UT-1	DRY HEAT STERILIZER	102
UT-2	VERTICAL AUTOCLAVE	103
UT-3	ICE FLAKER	104
UT-4	NITROGEN GENERATOR	105
UT-5	COLD ROOM	106
UT-6	(I) BOILER FOR R&D, PP WORK & ACCESSORIES	(II) BOILER 107-108
<b>MISCELLANEOUS (EQUIPMENTS REQUIRED IN MORE THAN ONE FACILITY)</b>		
MIS-1	LAMINAR FLOW HOOD	109
MIS-2	MICROWAVE OVEN	110
MIS-3	REFRIGERATOR	111
MIS-4	DEHUMIDIFIER	112

## Annexure-XII

### TECHNICAL SPECIFICATIONS

#### BIOPROSPECTING FACILITY

##### **BP-1. SPECIFICATION FOR 'DIAPHRAGM PUMP'**

**Diaphragm Pump with following feature and specification:**

1. Efficient, chemically resistant diaphragm pump for laboratory use for applications like like vacuum distillation, vacuum filtration, gel drying or the transfer of corrosive/toxic gases etc
2. Wetted parts should be made of high quality durable material
3. Ultimate vacuum: around 700 mbar
4. Flow rate: 10-15 lit/min
5. 100% contamination free (oil free) transfer
6. Vibration free
7. Noise free
8. High class safety and protection
9. Operating voltage: 230 V; 50/60Hz

##### **Accessories & Spares:**

Vacuum gauge  
Moisture Trap/ Solvent Trap  
Rubber/silicon Tubing  
Sealing/Gasket

***Note: The equipment should be provided with all necessary accessories and spare***

**Kindly quote break up cost for each item**

**Spares and accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

## **BP-2. SPECIFICATION FOR 'SOXHLET UNIT'**

### **SPECIFICATIONS FOR SOXHLET**

- Two position fully automatic soxhlet extraction unit.
- Systems should work as per the principles of Soxhlet Extraction and not a modified Hot Extraction.
- System should have an Optical tank level sensor to monitor solvent level.
- Built-in solvent library to select the required solvent and parameters for extraction.
- There should be provisions for using lesser positions than the total places provided.
- There should be a ceramic heating plate which allows easy cleaning and routine maintenance.
- The resident software should have an easy-to-use interface with self-explanatory guides and step-by-step choices offered throughout the menus.
- There should be a flexible system to ensure absolute tightness even under extreme conditions.
- There should be provisions to store customized methods.
- Chiller connectivity for better recovery rate and better efficiency of the system.
- All parts coming in contact with reagents should be inert.
- Capacity 700/1200W
- Beaker Volume: 100-150 ml
- Volume of glass sample tube 100-120 ml
- Volume of Soxhlet glass chamber 150-200 ml
- Maximum cooling water consumption 800/hour
- Max. Water pressure 3-6 bar
- Interface RS 232

#### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

#### **General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re-installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

### **BP-3. SPECIFICATION FOR 'UV LAMP'**

#### **TWO DIFFERENT TYPES OF UV LAMP UNITS**

##### **(a) UV Visualization Cabinet for Applications like viewing/processing slides of biological samples, TLC plates etc**

###### **Features & Specification:**

1. UV Visualization Cabinet with shock resistant, durable viewing cabinet with proper UV protection for viewer; Reliable High intensity UV Lamp, Safe and easy to operate; easy to handle
2. Having provision of two UV light tubes for using lamps of two different wavelength (short wave UV, 254nm and long wave UV 365 nm) in combination or in a single wavelength mode; Fluorescent tube for daylight visualization
3. Suitable for visualizing samples in small size objects like slide, petri dish, tubes etc as well as larger objects like 20 x 20 cm TLC plates;
4. Safety switch and timer for automatic switch-off to reduce the risk of unwanted harmful UV radiation exposure
5. Power requirement: 220-230 V AC

###### **Accessories:** 1) Adapter

- 2) UV lamps of 4 Watt & 6 Watt tubes (for 254 nm & 365 nm)
- 3) Spare Parts: (i) Light tube short-wave UV, 254 nm, (of 4W, 6 W & 8W)  
(ii) Light tube long-wave UV, 365 nm, (of 4W, 6 W & 8W)

##### **(b) Handheld UV lamp suitable for observation/irradiation/detection of biological samples in different objects like slide, tubes, petri dish etc and related applications**

###### **Features & Specification:**

1. Portable Handheld lightweight UV lamp with shock resistant, durable housing with proper UV protection for viewer; Reliable High intensity UV lamp, Safe and easy to operate; easy to handle
2. Having provision of two UV light tubes for using lamps of two different wavelength (short wave UV, 254nm and long wave UV 365 nm) in combination or in a single wavelength mode
3. Suitable for observation/irradiation/detection of biological samples (microorganisms/protein/DNA-RNA gels etc) in different glassware/sample holders like slide, tubes, petri dish, beaker, flasks, etc and related applications
4. Safety switch and timer for automatic switch-off to reduce the risk of unwanted harmful UV radiation exposure
5. Power requirement: 220-230V AC

###### **Accessories:** 1) Adapter

- 2) UV lamps of 4 Watt & 6 Watt tubes (for 254 nm & 365 nm)
- 3) Spare Parts: (i) Light tube short-wave UV, 254 nm, (of 4W, 6 W & 8W)  
(ii) Light tube long-wave UV, 365 nm, (of 4W, 6 W & 8W)

**Note: *The equipment should be provided with all necessary accessories and spare***  
***Kindly quote break up cost for each item***

**Spares and accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**



#### **BP-4. SPECIFICATION FOR 'AUTOPROGRAMMABLE CRYOCAN'**

Autoprogrammable cryocan is required for long term storage of samples cryovials in cryobox racks and Canisters in liquid nitrogen

- It should be lightweight aluminum design and small neck opening insures ease of handling and low static evaporation rates.
- It should be fitted with an automated self-pressurized withdrawal device to easily dispense LN<sub>2</sub> without pouring.
- LN<sub>2</sub> capacity should be at least 20 Litres.
- Static holding time should be at least 100 days.
- It should come with withdrawal device and 10/12ml dipper.

#### **Optional Accessories:**

All accessory such as liquid withdrawal device, canisters, container protection, cry ware, cry vial/cry vial storage SS racks/vials etc should be quoted separately.

- Wheeled accessory and liquid nitrogen level monitor & alarm
- Auto-refilling device (wheel based) of suitable capacity
- Transfer tank (wheel based) of suitable capacity

#### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **BP-5. SPECIFICATION FOR 'CULTURE ROOM STERILIZER'**

The lightweight, durable and highly-efficient **Air Pressure Modules** to be offered.

Filter having efficiency rating as high as 99.997% with hot, DOP, thus retaining all air-borne particles of size: 0.3 micron and larger. Must provide continuous supply of clean air into the room and allows the room to be in positive pressure.

The blower and motor assembly should be statically and dynamically balanced. Blowers to spring mounted to minimize vibration.

- **Size** : 710 x 1200 x710mm
- **Room duct size** : 610x610x610 mm

### **Specifications:**

HEPA Efficiency	99.997% at 0.3 microns with DOP test
Pre-filter	Washable with an arrestance up to 90% at 5 microns
Air Velocity	90FPM +-20%
Sound Level	60-65 decibels
Cleanliness	Class 100

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **BP-6. SPECIFICATION FOR 'VACUUM OVEN'**

Chamber: Rectangular

Chamber volume: 50 Ltrs

Temperature Range: Amb. +5 to 200 °C

Electrical Requirements: 220V; 50/60Hz

Microprocessor: PID Control / Auto-tuning/Calibration

### **Vacuum Chamber:-**

- The vacuum chamber of the oven shall be made of SS 316/304 plates.
- Door of the chamber shall be made of SS 316/304 plate.
- Silicon rubber gaskets shall be provided for sealing the door and the chamber face and through the window.
- Observation window made of toughened glass should be provided on the door to view the inside of the chamber.
- Vacuum gauge should be provided in front of the chamber.
- Gas inlet valve shall be provided to allow evacuation and venting.

**VACUUM PUMP:** Suitable Vacuum pump to obtain high Vacuum < 12mbar. Oil mist trap/ moisture trap to prevent inflow should be quoted along with vacuum pump.

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **BP-7. SPECIFICATION FOR 'MECHANICAL STIRRER WITH SPEED CONTROL'**

- It should be a Programmable, microprocessor controlled stirrer to offer high performance features and precise control with calibration.
- Speed Range approx 50-1200 rpm
- Control should be either the top plate surface temperature or the liquid temperature when using the PTFE-coated probe.
- It should have technology to provide smooth slow speed stirring and rapid braking.
- Should have Integrated ring stand, single knob design and RS232 output.
- Should be easy to clean and resist alkalis and acids.
- Cast-aluminum base to divert spills from internal electronics.
- Material surface should be ceramic.
- Temperature range should be at least RT +1° to 40°C or better

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **BP-8. SPECIFICATION FOR 'REACTOR AUTOCLAVE'**

**High Pressure stirred autoclave reactor with high safety system**

### **Specifications:**

#### **Vessel Capacity/Pressure/Temperature:**

1. Capacity: around 2 Litr
2. Inside diameter around 4 inch
2. Min./max. Pressure: 0-120bar
3. Min./max. temperature: 0-250<sup>0</sup>C

#### **Agitator/Stirrer:**

1. Max. torque: 300Ncm
2. Speed: variable speed up to around 2000RPM
3. Power supply:110/230V; 50/60Hz

**Heating System:** Electronic Ceramic Band Heater with effective insulation through good insulating material like ceramic wool

**Control Panel:** Compact, easy to use digital control panel with clear visibility, microprocessor based programmable PID temperature controller cum indicator

#### **Design, Construction & Safety:**

Trolley mounting autoclave system; Movable head mounting, removable head and vessel design with quick opening system, all wetted parts are made of stainless steel (SS-316 or better), Gasket made of material like PTFE etc;

**Maximum Head Openings:** 6 or more

#### **Nozzles, Valves & Fittings:**

Pressure gauge, vent needle valve, safety rupture disc, Internal cooling, thermowell (with temp. sensor), gas inlet & liquid sampling needle, Split ring closure with 6 cap or more screws and can be accommodated 6 or more openings; valve with common dip tube (sparger)

#### **Cover plate:**

Cover plate with accessories

***Note: The equipment should be provided with all necessary accessories and spare***

**Kindly quote break up cost for each item**

**Spares and accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

## **BP-9. SPECIFICATION FOR 'HYDROGENATION APPARATUS'**

### **Shaker type Hydrogenation Apparatus with high safety system**

#### **Specifications:**

1. Shaker type Hydrogenation Apparatus made of chemically resistant material
2. Capacity: Max. 500mL (should accommodate reaction bottle of 250 ml & 500ml)
3. Maximum Pressure: around 60 psi
4. Maximum Temperature: around 80°C
5. Tank pressure gauge/indicator and bottle pressure gauge/indicator
6. Explosion proof motor with overall high safety
7. High quality gas supply Hose/tubing
8. Pressure gauge/Valves made of high quality material like SS
9. Tight sealing provision with high quality material for leakage free operation
10. Sturdy shaking mechanism for continuous and uniform shaking
11. Minimum vibration & noise

- Accessories:**
1. Reaction Bottle (250ml & 500 ml) made of high quality material (Borosilicate or better) and pressure tested
  2. Tube with fittings (for 250ml & 500 ml)
  3. Heating mantle/Temperature controller
  4. Water Cooling Jacket

***Note: The equipment should be provided with all necessary accessories and spare***  
**Kindly quote break up cost for each item**  
**Spares and accessories should be quoted separately**  
**A warranty of minimum of 3 years should be provided for the above specifications.**

## **BP-10. SPECIFICATION FOR 'DIGITAL ELECTRONIC BALANCE'**

### **Specifications:**

1. Minimum Weighing Value/Readability: 0.1g
2. Max. capacity : Around 3 Kg
3. Tarring facility : Entire range
4. Reproducibility : 0.1g
5. Linearity:  $\pm 0.1g$
6. Weighing pan dimension : Around 180 mm dia or 130x150mm or more
7. Should operate on  $220 \pm 10$  Volts 50 Hz AC power supply

### **Special features:**

1. Digital Weighing Balance with modern , high class & proven technology to provide fast & stable results
2. Chemically Resistant, durable, user friendly housing and base construction,
3. Smart Grid Stainless Steel weighing pan for fast & stable results
4. Smart screen color display with good resolution for clear visibility, easy reading
5. Easy & user friendly operation
6. Stability indicator and level control warning when the balance is not level
7. Automatic internal calibration and adjustment
8. Warning indicator on exceeding weight limits
9. Overload protection
10. Balance check prompts automatically for validation with external weights
11. Built in interface and two auxiliary outlets
12. Weighing adapter for optimum adaptation to the environment
13. Standard interface to connect to computer or printer etc

### **Essential Accessories:**

1. AC Adapter, Manual, dust Cover

### **Optional Accessories:**

1. Compatible Voltage Stabilizer

***Note: The equipment should be provided with all necessary accessories and spare***

**Kindly quote break up cost for each item**

**Spares and accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

## **BP-11. SPECIFICATION FOR 'GEL ROCKER'**

### **Feature & Specification:**

Platform type Gel Rocker for a broad range of applications for mixing and agitation eg. gel blotting and staining/destaining gels, culture aeration and other related applications.

1. Dual platform rocker; platform/body should be made of durable/superior quality/corrosion resistant metal
2. Platform size of approx. 25x20cm or more
3. Efficient rocking technology for even and gentle agitation of the samples with adjustable rocking speed/tilt angle and speed control
4. The platform should accommodate four 8 x 10 cm or two 10 x 20 cm blotting boxes or more and can be used for temperature controlled experiments
5. Clearance between the platforms should be around 9-10cm
6. Speed : 8-40 rpm or more (or 5 -120 tilts/min or more)
7. Analogue Speed controller
8. Digital electronic timer
9. Temperature range : 4–80°C
10. Maximum load around 5 Kg
11. Electrical input requirements: 230 V AC, 50/60 Hz,

***Note: The equipment should be provided with all necessary accessories and spare  
Kindly quote break up cost for each item  
Spares and accessories should be quoted separately  
A warranty of minimum of 3 years should be provided for the above specifications.***



## **BP-12. SPECIFICATION FOR 'SEMI DRY GEL TRANSFER UNIT'**

Semi Dry Gel Transfer Unit for applications like electrophoretic transfer of proteins from polyacrylamide gels to blotting membranes like nitrocellulose or PVDF membrane etc

1. Efficient Semi Dry Gel Transfer Unit for complete, uniform electrophoretic transfer using low current and voltage with a minimal amount of buffer
2. Efficient unit for transfer of multiple gels (two layers of gels) simultaneously
3. System should have a capacity of around 14x16 cm transfer area which can handle 2 midi gels or 4 mini gels using stacked format/ two tray provision
4. Contamination-free transfers from high quality electrodes made of durable, superior quality material like titanium/stainless steel/platinum
5. Provisions like venting of Electrode or other should be there for preventing bubble formation during transfer.
6. Use friendly interface/control panel with keypad, clear display; can be defined/saved & used sufficient number of programmable methods
7. Temperature range : 4–40°C or more
8. System should have in-built power supply which automatically monitors the transfer status (end of run etc) and have user/safety alerts like stops the transfer before the stack overheats, power failure during run etc.
9. System must have power setting of 30 V, 500 mA, 15 W
10. Electrical input requirement: 240 V AC, 50/60 Hz

***Note: The equipment should be provided with all necessary accessories and spare  
Kindly quote break up cost for each item  
Spares and accessories should be quoted separately  
A warranty of minimum of 3 years should be provided for the above specifications.***

### **BP-13. SPECIFICATION FOR 'RECIPROCAL DESTAINER'**

Reciprocal Destainer for destaining gels and related applications

1. Efficient Reciprocal Destainer with smooth and uniform reciprocal movement suitable for gel destaining and related applications
2. Body and platform/tray should be made of anticorrosive and durable material
3. Platform/tray should conveniently house broad variety of flat bottom trays, test tube racks, flasks, beakers, etc
4. Platform/tray dimension: around 300mmx300mm or more
5. Should operate with electronic digitally controller which gives accurate strokes per minute, Programmable feather touch keys, Digital display of time
6. Noiseless dc motor
7. The cross rod network arrangement on the platform enables risk of flask breakages and gives an intact grip.

***Note: The equipment should be provided with all necessary accessories and spare  
Kindly quote break up cost for each item  
Spares and accessories should be quoted separately***

**A warranty of minimum of 3 years should be provided for the above specifications.**

#### **BP-14. SPECIFICATION FOR 'MICROWAVE OVEN'**

**Laboratory grade Microwave Oven suitable for applications like drying slides, Microwave tissue processing, Microwave-assisted fixation, Dehydration, Staining, histology, Infiltration, Decalcification, Antigen Retrieval, etc and other related applications**

##### **Specification/ features:**

1. Compact Laboratory Grade Microwave Oven with cavity volume of approx. 20-25 L
2. Stainless steel interior & exterior
3. Easy to clean oven chamber with thermal insulating non microwave absorbing and chemical resistant, stain-resistant floor (e.g. ceramic); Illuminated interiors
4. Built in inside chamber reflector for even distribution of the microwaves
5. Efficient technology for even heating
6. High Performance ventilation system to remove fumes etc./provision to connect to fume hood or other laboratory air handling system etc
7. Multiple safety interlocks with shutdown and visual & aural alarms on errors and malfunctions
8. Flexible operation with easy-to-use menu-driven controls with touch key pad, icon-based functions;
9. Fully programmable; Multiple running modes, 10 or more multistage programs can be saved & stored; Temperature and power control, pulsing the microwave effects; Preset & variable time entry
10. Different modes of operation (Dual Mode, Extended Timer, Count up and countdown Timing)
11. Pre-warming facilities.
12. Frequency: 2.45 GHz. – an ISM frequency
13. Output: Around 1000 Watt maximum output power
14. 4-5 different power levels/pulsing/cycling (ranging from low to high) with easy dial in feature
15. Temperature uniformity & control: around  $\pm 0.5^{\circ}\text{C}$
16. Adjustable air bubble agitation system
17. Input power: 220-230 V/ 50-60Hz

##### **Accessories:**

- 1) (i) Ventilation Hose/duct  
(ii) Processor Tray  
(iii) Microwave Transparent Containers  
(iv) Bowls for Histoprocessing and related processes
- 2) (i) Vacuum option  
(ii) Bowl for Vacuum Processor  
(iii) Cover of Vacuum Processor

***Note: The equipment should be provided with all necessary accessories and spare  
Kindly quote break up cost for each item  
Spares and accessories should be quoted separately***

**A warranty of minimum of 3 years should be provided for the above specifications.**

## **BP-15. SPECIFICATION FOR 'HIGH VACUUM PUMP'**

**High Vacuum Diaphragm Pump with following feature and specification:**

1. Efficient, chemically resistant two stage diaphragm pump (combination pump) for laboratory use
2. Ultimate vacuum: 5-10 mbar
3. Flow rate: around 30 lit/min
4. Pumping speed ( $\text{m}^3/\text{h}$ ): around 2  $\text{m}^3$  / h or better
5. Pressure/vacuum indicator should be there
6. 100% contamination free (oil free) transfer
7. Gas blast valve should be manually operated
8. Wetted parts should be made of high quality durable material
9. Vibration free
10. Noise free
11. Thermistor controlled start up capacitor for start
12. Imbedded thermostat system to be provided to cut out pump if motor overheats
13. High class safety and protection
14. Operating voltage: 230 V; 50Hz/60Hz

### **Accessories & Spares:**

1. Moisture Trap/ Solvent Trap
2. Rubber/silicon Tubing
3. Sealing/Gasket

***Note: The equipment should be provided with all necessary accessories and spare***

**Kindly quote break up cost for each item**

**Spares and accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

## **BP-16. SPECIFICATION FOR 'DIGITAL WEIGHING BALANCE'**

### **Specifications:**

1. Minimum Weighing Value/Readability: 5g
2. Max. capacity : Around 15 Kg
3. Tarring facility : Entire range
4. Weighing pan dimension : Around 400x300mm or more
5. Should operate on 220 ± 10 Volts 50 Hz AC power supply

### **Special features:**

1. Digital Weighing Balance with modern , high class & proven technology to provide fast & stable results
2. Chemically Resistant, durable, user friendly housing and base construction; Stainless Steel weighing pan
3. Large digital display with good resolution for clear visibility, easy reading;
4. Easy & user friendly operation
5. User-friendly calibration for direct calibration through key pad
6. Functions for nullify/filter the vibration levels in industrial environment
7. Stability indicator and level control warning when the balance is not level
8. Warning indicator on exceeding weight limits
9. Overload protection
10. Balance check prompts automatically for validation with external weights
11. Interface to connect to computer & printer

### **Essential Accessories:**

2. AC Adapter, Manual, dust Cover

### **Optional Accessories:**

2. Compatible Voltage Stabilizer

***Note: The equipment should be provided with all necessary accessories and spare***

**Kindly quote break up cost for each item**

**Spares and accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

## **BP-17. SPECIFICATION FOR 'MAGNETIC STIRRER'**

### **Specifications**

1. Bench top Magnetic stirrer with efficient speed control and heat control for uniform heating and stirring
2. Heating plate should be made of one-piece superior quality chemically resistant material; easy to clean
3. Speed range: 100 – 1200 rpm or more
4. Temperature range: 50 – 450°C or more.
5. Control accuracy without sensor:  $\pm 5^{\circ}\text{C}$
6. Maximum Stirring capacity ( $\text{H}_2\text{O}$ ): around 10 liters
7. Heating power: 500W-1000W
8. High class protection with inbuilt safety system; heater should shut automatically switch off if temperature rises above the preset temperature and above upper limit of temperature
9. Should operate at 230V, 50/60Hz

### **Accessories & Spares:**

1. Suitable Clamps, holding rod & boss head
2. Temperature Sensor

***Note: The equipment should be provided with all necessary accessories and spare***

**Kindly quote break up cost for each item**

**Spares and accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

## **BP-18. SPECIFICATION FOR 'DIGITAL BATH PLATE'**

### **Specifications**

1. Digital Bath Plate
2. Heating plate should be made of one-piece superior quality chemically resistant material
3. Temperature range: 50 – 450°C or more.
4. Control accuracy without sensor:  $\pm 5^{\circ}\text{C}$
5. Heating power: 500W-1000W
6. Efficient heat control for uniform heating
7. High class protection with inbuilt safety system; heater should shut automatically switch off if temperature rises above the preset temperature and above upper limit of temperature
8. Should operate at 230V, 50/60Hz

***Note: The equipment should be provided with all necessary accessories and spare  
Kindly quote break up cost for each item  
Spares and accessories should be quoted separately  
A warranty of minimum of 3 years should be provided for the above specifications.***

## **BP-19. SPECIFICATION FOR 'KINETIC BATH PLATE'**

### **Specifications**

1. Kinetic Bath Plate with heating and shaking
2. Heating plate should be made of one-piece superior quality chemically resistant material
3. Temperature range: 50 – 450°C or more.
4. Shaking speed: Around 200rpm
5. Control accuracy without sensor:  $\pm 5^{\circ}\text{C}$
6. Heating power: 500W-1000W
7. Efficient heat control and speed control for uniform heating & shaking
8. High class protection with inbuilt safety system; heater should shut automatically switch off if temperature rises above the preset temperature and above upper limit of temperature
9. Should operate at 230V, 50/60Hz

***Note: The equipment should be provided with all necessary accessories and spare***  
**Kindly quote break up cost for each item**  
**Spares and accessories should be quoted separately**  
**A warranty of minimum of 3 years should be provided for the above specifications.**



## **BP-20. SPECIFICATION FOR 'NUTCHE FILTER 30 Ltrs. SS WITH STAND'**

### **Nutsches Filter (30L capacity) for testing, piloting and small scale processing with faster filtering capability**

- 1) Vertical position type **Nutsche** Filter pre-fitted with useful components including valves, sightglasses, pressure relief, spray assembly and pressure/vacuum gauge
- 2) Construction: All parts should be made of superior quality/durable/anti-corrosive material
  - (a) Wetted Parts/ Nozzle/Body Flanges etc: SS 316 lined with PTFE/PP/PVDF
  - (b) Perforated Plate: HDPE
  - (c) Filter Medium: PP Woven Textile; 400 Mesh, 20 Micron, Quality :T-255; Wt/sq m-GSM 540; WARP Spun PP
  - (d) Non-metallic parts (Gasket, O-ring) should be of superior quality material like PTFE
  - (e) Stand: Heavy & reliable material
- 3) Working Volume: 30L
- 4) Vessel Diameter : around 60 mm
- 5) Cake volume: around 10 L
- 6) kept in stock for short delivery times
- 7) Operating Pressure: around 710mm Hg
- 8) Operating Temperature: 70-80°C
- 9) Design Pressure: Full Vacuum
- 10) vessel vacuum and heating capability for efficient drying of filter cake, built-in spray heads for filter cake washing, complete material containment for increased safety and purity plus gas blanketing capability
- 11) ASME certified design

**Accessories:** (i) jacketing or electric heating (ii) motorized mixer or else up/down cake agitator in manual or motorized versions.

**Note: The equipment should be provided with all necessary accessories and spare**  
**Kindly quote break up cost for each item**  
**Spares and accessories should be quoted separately**  
**A warranty of minimum of 3 years should be provided for the above specifications.**

## **BP-21. SPECIFICATION FOR 'FACS'**

- High performance cell sorter flow cytometer with solid state Blue (488 nm), Red (640 nm), and Violet (405 nm) lasers. The system should be upgradable up to five or six lasers in future.
- The system must work on updated technology to give high efficiency in cell sorting and should have a stable optical alignment configurable by end user.
- The system should have nozzles of size up to 80 to 130 microns or more.
- The system must have four or more beam spots / pin holes without any customization with the base instrument for simultaneous laser excitation keeping in mind the future upgradability options with 4<sup>th</sup> laser.
- The system should have 14 fluorescence (16 parameters) measurement capability simultaneously, upgradable up to 18 fluorescence (20 parameters).
- The system should be able to acquire at least 7000 events/second.
- The system should have built in sorter capable of two-way and four-way sorting with sorting speeds of 50000 events/ second.
- The system should be capable of sample input from various input devices / tubes with different broad range of sizes.
- The system should have option of automatic cell deposition unit which allows for slide and plate sorting into different plates.
- The system should also have software adjustable sample input agitation and temperature control and software enabled automation to simplify drop delay determination.
- The instrument should provide additional user protection. Must have the ability to alert if sorting shuts down.
- Data Management system: Compatible Computer with One 30" LCD Monitor, Net workable colour Laser printer and online UPS for at least 60 minutes backup.
- The company should offer the latest and updated model.
- System should have future upgradability to true UV laser.

**Optional Accessory:** All compatible accessories and consumable must be quoted separately.

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

### **General**

1. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that

would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.

2. The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
3. The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

ANNUAL MAINTENANCE CHARGES: The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **BP-22. SPECIFICATION FOR 'ROBOTIC LIQUID HANDLING SYSTEM'**

Liquid Handling system with open architecture and compact footprint for automated sample preparation for ELISA, PCR, Screening, Hit picking, Serial Dilution and other cell biology applications:

- System should have compact footprint to minimize space requirements and could be easily fitted in a standard laminar flow hood.
- The system should have easy to clean surfaces with no electronics, except accessories, below the deck.
- System should have nine or more pipettable deck positions
- System should have Interchangeable tools for pipetting
- System should have an option to have device to automatically move Plates, Tip boxes, Reservoirs across the deck to be able to handle future/ increased throughput.
- System should have an enclosure to protect samples against airborne particles & dust protection
- Software should have simulation feature to simulate protocol/programme before actual run/start & to estimate time to complete the assay. And it should have alarm on error.
- System should come with dedicated Branded Computer, Monitor (30 inches) and compatible Software with upgradable facility.
- Software should have unlimited license which will enable multiple users to load it on their computers and use it for offline assay/method development.
- System should be able to recognize & use tips from any other manufactures, which gives the flexibility and cost effectiveness.

### **OPTIONAL**

- **High-precision, pipette head-** 96-well pipette head liquid handling automation for microplates for low volume single-well, column, row, array, and full plate liquid handling.
  - System should be upgradable with 384-well pipette head.
  - Positive displacement pipetting.
  - Pipetting Specifications:
    - Range: 1.0-200  $\mu$ L Disposable Tip or better
- It should have on-deck accessories for plate heating & cooling and shaking.

The system should have an **Orbital Shaking Station** to agitate liquid within tissue culture plates or microplates in typical life sciences applications

- It should be fully controllable through the software
- Rotation speed range: 100-2,000 rpm

The system should have a **peltier thermal station** to provide temperature cycling

- Temperature range: Approximately +4 °C to +70 °C or higher
- Temperature accuracy  $\pm$  0.5 °C,

**The software should be user friendly, flexible and scalable with the following features:**

- Simultaneous Protocol Execution
- Time Constraints
- Event Driven Protocols.
- Forms could be written to provide a simplified user interface.

**Options for upgrade:**

The system should be upgradable with a variety of on deck accessories like Magnetic Bead Accessory, Tip Wash Stations, Auto-fill reservoirs etc for different applications.

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**General**

1. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
2. The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
3. The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## MICROPROPAGATION FACILITY

### **MP-1. SPECIFICATION FOR 'PASS BOX'**

- Material of Construction:
- SS 304 Sheet 16g Thick
- With Electromagnet Inter Locking Systems
- With 3 mm polycarbonate sheet in Door
- With U. V. & fluorescent light with Matt finish
- Size: 3 ft. W x 3 ft. D x 3 ft. Ht.

#### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

#### **General**

1. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
2. The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
3. The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

ANNUAL MAINTENANCE CHARGES: The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **MP-2. SPECIFICATION FOR 'BALANCE'**

### **Specifications:**

8. Readability : 0.1mg
9. Max. capacity : around 200g
10. Tarring facility : Entire range
11. Reproducibility : 0.1mg
12. Linearity :  $\pm 0.2\text{mg}$
13. Stabilization time : Around 4 seconds or better
14. Weighing pan diameter: Around 90-100 mm
15. Should operate on  $220 \pm 10$  Volts 50 Hz AC power supply

### **Special features:**

14. Digital Weighing Balance with modern , high class & proven technology to provide fast & stable results
15. Chemically Resistant, durable, user friendly housing and base construction,
16. Smart Grid Stainless Steel weighing pan for fast & stable results
17. Smart screen color display/touch screen display with good resolution for clear visibility, easy reading and user friendly operation
18. Sensor for hands free operation; menu lock provision for unwanted cahnges
19. Stability indicator and level control warning when the balance is not level
20. Fully Automatic internal Calibration, Adjustment & Linearization
21. Fully Automatic temperature and time control adjustment
22. Warning indicator on exceeding weight limits
23. Overload protection
24. Balance check prompts automatically for validation with external weights
25. Different applications with user guidance including percent weighing, density determination, statistical evaluation, formula weighing etc.
26. Built in Interface and two auxiliary outlets
27. Height adjustable inner draft shield
28. Weighing adapter for optimum adaptation to the environment
29. Standard Data interface/Interface port for connecting to windows PC, Printer or other analytical instruments
30. GLP/GMP/ISO compliance

### **Accessories:**

1. AC Adapter, Manual ,dust cover
2. Glass draft shield, calibration weights
3. Container holder or attachment should be available for weighing test tube, round bottom flask& volumetric flask
4. (a) Compatible Voltage Stabilizer (b) Compatible Printer

***Note: The equipment should be provided with all necessary accessories and spare***

**Kindly quote break up cost for each item**

**Spares and accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

### **MP-3. SPECIFICATION FOR 'GROWTH CHAMBER WITH RACKS'**

- Capacity : 1200-1300 Ltr.
- Light Bank : 3 side
- Illuminance : 50,000 Lux
- Shelves : 6 EA
- Power : 220V, 39A, 8.6kW, 60 Hz.
- Main control : Multi Channel full microprocessor programmable Controller
- Display : LED/ LCD display.
- Temperature Range : 0°C to 60°C (light on: 10°C to 60°C)
- Temperature Accuracy : ±0.5°C at 25°C
- Humidity range : 40 to 95%RH
- Humidity sensor : Electronic device
- Humidifier : Evaporation by motor with SS 316 pipe heater
- Light control : Photo-period control
- Material : Stainless steel, SUS 316/304
- Door : Silicone packing magnet door with window
- Cooling device : Hermetically sealed compressor, Auto exchange dual evaporator
- Safety device : Over/ under temperature protector, water level monitor, power breaker.

#### **Optional**

- Controlled CO2 in let option

#### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

#### **General**

4. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
5. The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
6. The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).



## **MP-4. SPECIFICATION FOR 'GREEN HOUSE FACILITY' (Around 4000 Sq.ft.)**

### **STRUCTURE**

**Frame:** All galvanized steel to be used and design as per IS875 standards to take withstand of wind speed 120 km/hour. End wall and side wall framing Aluminum corner trims, aluminum ridge bar and Galvanized gutter trim Brackets & fasteners as required to assemble frame.

**1) Pipe: Pipes sections to be used for different Structural Member will be as below or equivalent :**

- Columns: 80 mm × 50 mm in 2mm thick hot dip galvanized pipe or better
- Trusses: Bottom cord 32mm x 2mm; Truss Members 48mm × 48mm 2mm;Bracing 25 mm, pipe; structural member will be fitted with zinc plated nuts & bolts without welding.
- Purlins: 32 mm × 2mm thick.

**2) All G.I pipes should be galvanized.**

**3) Nuts and other metallic parts:** This should include all the elements required for joining and water tighten components (such as fittings, clamps, screws and nuts plated against corrosion).

### **DOUBLE DOOR ROOM**

- **Double Door Room-** of size 2.1m x 2.1m x 2.43m (L ×W×H) covered with 6mm thick polycarbonate sheet.
- **Sliding Door:** Size: 1.9m × 0.91m long & wide, normally lockable made with clear 6mm polycarbonate glazing, top & bottom tracks, jambs, flashings & installation hardware - 2 nos.
- **Air Curtain** with auto on/off when door opening /closing at main entry.

### **CLADDING**

**Roof, front wall, end wall, & sidewalls of the Greenhouse-sets and double room for rigid covering.**

6mm thick clear multiwall polycarbonate sheet, Aluminum Profile, EPDM gasket, Silicon sealant, and accessories. Roof and Side wall covers by 6mm, UV stabilized clear polycarbonate sheet:

Sheet thickness	6mm
Structure	2 TS
Approx. Weight g/m <sup>2</sup>	1300
Light Transmission	81%
K Valve	3

**Impact Strength:** Sheet should have outstanding impact performance over wide temperature range - 40°C +120°C and also after prolonged outdoor exposure.

**Hail simulation:** As a roof and side glazing material polycarbonate sheet is subjected to the extremes of weathers storms, hail stones, wind, and snow fall and ice formation. Under these conditions the product is virtually unbreakable and is an able to accommodate the subsequent temperature changes to conditions without breaking or buckling.

**Light Transmission:** The sunlight which reaches the surface of the earth has wavelength range between 295-2140nm. This optical window is divided into the following section.

UVB Middle ultra violet region 280-315nm

UVA near ultra violet region 215-380nm 0

Visible light region 380-780nm 82%

Near Infra red region 780-1400nm 82-20%

Middle Infra vix region 1400-3000 62-0% Polycarbonate sheet is treated with exclusively antifungal treatment to enhance the life of sheet.

### **SHADING SYSTEM**

- **External shading:** 75% shading net (agro shade net) with rolling arrangement connecting pipe etc. can be rolled when not required.
- **Internal shading:** Reflective, thermal-aluminium-screen silver with a manually operated expanding & retracting mechanism inside the green house

### **FOGGING SYSTEM**

Fogging System 1HP heavy duty motor with screen filter, fogging nozzles, pipes, polymer water tank 1000 ltr.

### **COOLING SYSTEM**

- 1.5mH × 8m.W × 100mm thick evaporative CELDEC cooling pad or better complete with:
  - All necessary framing material of Aluminum required supporting distribution & returning piping.
  - Gutters, down spout end caps & drip pan, plumbing kit, pump 220 volt - 1 phase 50 cycles, Drilled PVC piping cap, pad retainer, all suspension hardware.
  - Metal flashings as required to seal pad to vent opening, 4" thick evaporative cooling pad material.
  - Pad Area: 8m. W × 1.5m H × 100mm thick (w × h × Thickness)
- **Slow Speed Axial Flow Fan**

### **LIGHT**

- **Photosynthetically Active Radiation Lamp**
- **CFL'** to be fitted inside the buffer room for visibility during dark time.

### **HEATING SYSTEM**

**Heat Convactor** system of **2.4 KW** for Complete uniform heat circulation system

### **CONTROLL PANEL**

#### **Technical feature of Photoperiodic Timer**

- Cycle: 24 hrs minimum ON/OFF period 30 minutes.
- Accuracy: ±10 sec/day
- Input: 200-240 VAC, phase – single.
- Ambient: 5°C to 45°C, RH up to 85% normally.

#### **Technical feature of Temperature Control System**

- Temp. Range: 0.1 to 59.9°C.
- Accuracy: ±1°C.
- Hysteresis: 0.4°C with sensor probe Pt-100 Sensor cord 5 meters.
- Input: 200-240VAC (110 VAC available on demand), phase-single.

Ambient: 5°C to 45°C, RH up to 85% normally.

**Relative Humidity Control System:** It maintains RH in the range of  $\pm 4\%$ .

- Range: 30% to 90%.
- Real RH:  $\pm 2\%$ .  $\pm 1$  digit (at 45%).
- Input: 220VAC (110VAC available on demand), phase- single.
- Ambient: 5° to 45°C, RH up to 95%.

**Piltz Timer** for humidity

## **CIVIL WORK**

**Foundation wall** for all sides of Green House along with the double door room.

WIDE Based 1.5 below earth's surface, 1.5 above earth's surface, as kick-board 9" wide. Frame base block height 2'.

**Floor:** made crushed bricks 2" over that rodi (small stone pieces up to 2" over that cement plaster with ratio of rodi: sand: cement 4:3:1 with anti slippery tiles.

**Plinth protection:** 2' wide all around the greenhouse along with buffer room area.

## **ELECTRICAL WIRING:**

All wires will be of copper and desired load (Havells/Anchor/Finolex or similar quality) and switches imported make, extra switches also provided as standby. Each feature has own electric line with MCB and will be underground in PVC pipe complete set with A grade work. Separate electrical work, panel board and main switches as well.

## **OPTIONAL ITEMS:**

Benching system

Removable multi tier benching system for complete green house

Make of GI structure

### **Note:**

- **The facility should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## HERBAL EXTRACTION FACILITY

### **HE-1.SPECIFICATION FOR 'VACUUM DRYER 48 TRAYS'**

#### **DESIGNED TO ACCOMADATE 48 TRAYS**

- Design Temperature: 150 °C
- Metal of Constuction: SS 316, 6mm Thick.
- Door: Made From SS 316, 6mm Thick.
- Heating Shelf: Made From SS 316
- No. Of Shelf: 16-18
- Trays: Made From SS 316 Sheets Of 18 Swg.
- Vacuum Connection: Vacuum Guage 4' Dia Provided. Provision for Entry of Inlet Gas. Vacuum Break Valve to be provided.
- Digital Temperature Indicator at H.W. Inlet and Outlet
- Vacuum gauge and Digital Temp Indicator in Vapor line
- Glass view provided on door,body and receiver
- Isolation valve & Flow glass provided to monitor condensation between condenser and receiver
- Explosion vent
- Validation port
- Provision for Nitrogen purging
- Silicon transparent gasket for door.
- Construction and finish as per cGMP standard
- Pressure release valve in Steam line.
- Drain valve for Vacuum chamber and Receiver

#### **OPTIONALS:**

- 300 mm wide SS 304 skirting all along the flange
- 50 mm thick glass wool insulation on the vacuum chamber outer surface except door. The insulation is covered with SS 304 cladding.
- 2 stage type vacuum pump run by FLP motor
- Hot water system with tank (Insulated), SS304 Steam Radiator/Electrical heaters, Circulation pump with Motor and controls.
- Heating Shelf's unit movable system fitted on SS316 Trolley and SS304 external Trolley.
- Limpet coil on Vacuum chamber.
- Skirting/Wall panel all along the body/vacuum chamber flange
- Rupture Disk: Suitable SS 316 rupture disk with vacuum support.
- Vacuum Pump : Oil lubricated Vacuum pump, Nominal capacity 150m<sup>3</sup>/Hr, Speed 7.5 hp/1400 rpm,
- 150 ltrs receiver (3mm SS 316) & suitable condensers (2m<sup>2</sup>) made from 304.

**TESTING:** The vacuum dryer shelves should be hydro-tested under standard condition. The vacuum chamber to be tested for leaks under vacuum.

#### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

## General

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **HE-2.SPECIFICATION FOR 'HOT AIR OVEN'**

### **Standard Features:**

Chamber volume: 120L-150L  
Temp range : ambient +10° to 250°C approx  
Temp accuracy :±0.1°C  
Uniformity : ±1.0 °C at 100 °C  
Dimension (w×d×h): 650×700×850 mm (approx)

### **Construction:**

- Controller: PID temperature controller with timer, alarms and auto tuning.
- Display: LED 4 digit display
- Incoloy sheathed heater.
- Non contact type door switch.
- Over temperature safety protection .
- Electric Supply 220V, 50/60 Hz
- Aero dynamic internal design.
- Solid and plain bottom without electricals.
- Stainless steel wire mesh shelves. Shelf height adjustable in 25mm steps.
- Mineral wool insulation keeps outer casing cool.
- Silicon gasket in door

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

### **HE-3. SPECIFICATION FOR 'MECHANICAL PLATFOEM BALANCE OF 500 KG CAPACITY'**

- High resolution up to 380,000 counts.
- Bright displays for easy viewing function.
- Built in rechargeable battery for continuous use.
- Remote display availability.
- Environmentally protected load cell.
- Rugged construction suitable for industrial environment.
- Balance should have capacity to weigh 500 kg
- The balance should have readability of 50 g or better

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

ANNUAL MAINTENANCE CHARGES: The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

#### **HE-4. SPECIFICATION FOR 'DIGITAL PLATFORM BALANCE OF 200KG'**

- 200 kg capacity
- High resolution up to 380,000 counts.
- Stainless Platform scale
- Weighing Unit: kg
- Advanced computing functions
- Built in power supply with standard 3 prong power cord
- Eliminating the need for a bulky AC adapter
- Built in rechargeable battery for continuous use.
- LCD display shows weight as well as unit
- Stainless Steel commodity tray for easy cleaning
- Advance computing functions (Zero, Tare, Add, Store, etc)
- High accuracy
- balance should have readability of 20 g or better

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

ANNUAL MAINTENANCE CHARGES: The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).



**HE-5. SPECIFICATION FOR 'HAMMER MILL WITH DUST EXTRACTION SYSTEM OF 300 KG/HR'**

Hammer Mill with Dust Extraction System of 300 Kg/hr Capacity is required for Herbal extraction facility.

Capacity	300 kg/hr
Speed	4000 r.p.m or better
Horse Power	5 h.p. or better
Feed Opening	100 m.m. or better
No.of Hammers	12 nos or better
Floor Space	660x 460 m.m or better
Overall Height	710 m.m or better
Dim. of dust collector Floor Space	1100x 1100 m.m. or better
Dust Collector with Stand	

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

**HE-6. SUPPLY/INSTALLATION OF 'SS-316 OPEN TOP AND BOTTOM DISHED END VESSEL WITH DISTILLATION COLUMN AND RECEIVER ASSEMBLY ( VESSEL = 500 LT.)'**

**Note:**

- The equipment should be provided with all necessary accessories and spare
- Kindly quote break up cost for each item
- Spares and optional accessories should be quoted separately

A warranty of minimum of 3 years should be provided for the above specifications.

**HE-7. SUPPLY/INSTALLATION OF 'SS-304 CYLINDRICAL TANKS FOR STORAGE OF 1000 LTS'**

**Note:**

- The equipment should be provided with all necessary accessories and spare
- Kindly quote break up cost for each item
- Spares and optional accessories should be quoted separately

A warranty of minimum of 3 years should be provided for the above specifications.

**HE-8. SUPPLY/INSTALLATION OF 'SS-304 FILTER PRESS WITH 18" DIAMETER WITH TRANSFER PUMPS'**

**Note:**

- The equipment should be provided with all necessary accessories and spare
- Kindly quote break up cost for each item
- Spares and optional accessories should be quoted separately

A warranty of minimum of 3 years should be provided for the above specifications.

**HE-9. SUPPLY/INSTALLATION OF 'PROCESS PUMP SETS'**

**Note:**

- The equipment should be provided with all necessary accessories and spare
- Kindly quote break up cost for each item
- Spares and optional accessories should be quoted separately

A warranty of minimum of 3 years should be provided for the above specifications.

## **HE-10. SPECIFICATION FOR 'PORTABLE MECHANICAL SIFTER OF 20" DIAMETER'**

Premium quality Portable Mechanical Shifters(GMP Model) for sifting of free-flowing powders and granules and should come with flanged type motor, fly wheel mechanism giving gyratory vibrations, one S.S-304 screen/sieve of given mesh. Discharge chute, screen loading channels with powder holding arrangement, with side rimes and bolting clamps fabricated using 304-quality stainless steel to ensure superior quality.

### **SALIENT FEATURES**

- Contact parts made of SS 316/304.
- Interchangeable Screens.
- Portable, compact and easy to handle and dismantle for cleaning.
- Flame-proof motor supplied as an option.
- Drive unit located in the center to get the same screening efficiency over entire surface.

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **HE-11. SPECIFICATION FOR 'DIESEL FIRED BOILER WITH 600 KG/HR CAPACITY'**

**Capacity:** 600 kg/ hr

**Fuel:** Diesel

**Steam pressure:** 10.54 kg/cm<sup>2</sup>

**Dryness factor:** 88 %

**Radiography:** 100 %

**Safety monitoring:** No water cut off

Low water emergency start & stop

High water level controller

Combustion control and emergency cut off

Flue gas temp. Auto cut off

Pressure auto cut off

**Conversion:** Provision for oil/gas conversion if required

### **Accessories required**

**Chimney:** self supported

### **All bends and valves**

**Dust collector:** Multicyclonic type

**M.S. Ducting:** Boiler to blower

Blower to MDC

One bend of 45 degree

MDC to chimney

**Water softener:** 1000 L/H

**Soft water storage tank:** M.S. tank 4 mm thick of 1000 L with all normal opening and water level view glass arrangement duly painted

**Condensate storage tank:** 1000 L M.S. 4 mm thick Mineral wool insulation of 50 mm thick and density of 48KG/M<sup>3</sup> with all normal openings

**Pressure reducing station:** Suitable for the system.

Any other statutory requirement and safety norms which will be in force on the day of execution of the order.

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

### **General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **HE-12. SPECIFICATION FOR 'TRAY DRYER – 96 TRAYS'**

- The dryer should be of robust construction built on formed angles of thick sheet and suitably reinforced with angles and sections.
- Inner and outer made of heavy SS 304 quality sheet.
- The internal structure is fully TIG welded and all the internals have ground smooth surfaces.
- It should be insulated with thick glass wool insulation and clad with S,S, Polished sheets.
- Brackets to support the heavily laden drying trays at adjustable height are provided on the sides of inner walls.
- The dryer should have a fresh air inlet and an adjustable air outlet flap at the front. The door should be explosion proof. Door lips are having Neoprene rubber Gasket to prevent leakages.
- Fitted with Strip type Air Heaters.
- Temperature range from +5°C ambient to 100°C ± 2°C or more ( preferably up to 250 °C)
- Controlled by Microprocessor. The system should have Microprocessor based PID Digital Temperature Indicator cum Controller.
- Ventilation is provided with adjustable opening at the top to exhaust the fumes or vapors produced during processing.
- A fan should be fitted for forced air circulation to ensure uniform heating throughout the inner chamber.
- A separate control panel should be fitted to the chamber with individual control for ON / OFF and air circulating fan.
- The system to be Supplied with 96 trays
- Trays will be manufactured from SS 304/316 sheets. The Trays should have rounded corners with mirror finish from inside and outside.
- Racks should be provided with wheels to slide them in and out of the Dryer. An additional S.S,trolley for Racks for outside movement should be provided optionally.

**FINISHING:** The design and manufacture of the dryer should be of high standard of GMP model and have an aesthetic look.

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

### **General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

### **HE-13. SPECIFICATION FOR 'STIRRERS TABLE TOP'**

- The stirrer should have speed of 4000 RPM or better.
- The Motor should have 1HP capacity or better
- Unit should be clamped to a chrome plated rod fitted on a heavy cast iron base.
- The height and angle of the stirrer should be adjustable according to the requirement.
- Variable speed Motor with speed regulator fitted with SS Stirrer rod to give smooth and noiseless operation.
- The system should have digital Timer and Digital RPM Display.

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

ANNUAL MAINTENANCE CHARGES: The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **HE-14. SPECIFICATION FOR 'SPRAY DRYERS (50LT/HR)'**

Designed for spray drying of herbal extracts into herbal powder. Specially suitable for drying of heat sensitive material. The dried product should have even granule, good flow ability and solubility, high purity and good quality. The diameter and height of the tower may be modified to ensure that powder cannot reach the wall of the tower before drying, and ensure that powder will have dwelling time in hot air to complete low temperature drying. The wall of the tower should have sandwich cooling device to ensure liquid cone body which has large taper and can pulsate the tube by compressed air to shake down powder which is stuck on the tube. All contact place inside the dryer should be plain or round surface, and is ground and polished to avoid sand hole and dead angle etc. The contact surface made of stainless steel to ensure materials free of pollution. The driving parts should have good sealing to prevent water and oil. Materials discharge should be done through valve to avoid air leaking.

Three stage air filters for air pretreatment system and air can be purified up to 100 thousand levels.

### **TECHNICAL SPECIFICATION**

MOC	: Material contact part will be SS 304
Product	: Herbal Extract
Feed Rate	: 62 Kg/hr
Evaporation Rate	: 50 Kg/hr
Product output rate	: 12 Kg/hr
Initial Solid Content	: 20 %
Residual Moisture in the Final Product	: 1 – 5 %
Feed Temperature	: 30 Deg C
Temperature of inlet air	: 140-180 <sup>0</sup> C automatically controlled
Temperature of outlet air	: 90 <sup>0</sup> C
Heating system	: Indirect Oil fired Air Heater

### **ESSENTIAL ACCESSORIES**

#### **FEEDING SYSTEM**

**Feed Tank:** 75 L capacity, water funnel of 10 L capacity. MOC will be SS 304, 2 mm.

**Feed Line:** For systems complete with Feed pump, AC drive, Centrifugal Atomizer and all fittings, MOC will be SS 304.

#### **DRYING AIR SYSTEM**

**Indirect Oil Fired Hot Air Generator:** Indirect HAG and hot air duct with insulation to be supplied. MOC will be SS 304 & MS. Supply air blower with SS 304 to be provided.

**Drying Chamber:** Complete with Air distributor of SS 304, washing door, powder duct etc to be supplied. MOC will be SS 304, 2 mm. Chamber covered with insulation.

**Electromagnetic hammers:** 2 nos. for dislodging the powder from the chamber wall in case of deposition on the chamber cone to be provided.

**Air lock discharge Valve:** Providing at the bottom of Cyclone separator. MOC SS 304.

**Necessary Duct lines:** SS 304 duct line between Chamber and Cyclone, Cyclone and Scrubber, Scrubber and Exhaust blower to be provided.

#### **AIR HANDLING SYSTEM**

**Exhaust Blower:** 1 no Exhaust blower with MS construction (SS 304) to be supplied. This will be included exhaust duct, cloth bellow and exhaust chimney of suitable height.

**Cyclone Separator:** High efficiency cyclone separator to be provided in the systems. MOC will be SS 304, 2 mm.

**Scrubber:** SS 304 Scrubber with 100 L Tank and water pump with Pipeline.

**Instruments:** The control and instrument panel board having DC variable drive, TIC with PT-100 sensor for inlet & outlet temperature, Hour meter, Draft gauge, Volt meter, Ammeter, necessary push buttons and complete process colored Mimic diagram.

**Cables & Starters:** PVC insulated PVC cables to interconnecting various motors & control panel and all cables & wires to be provided with numbered Ferrules. DOL Starters according to the motor power with bimetallic overload relay, timer, and MCB.

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).



## **HE-15. SPECIFICATION FOR 'FALLING FILM EVAPORATOR'**

Triple effect Falling Film Evaporator

MOC : SS 304

Capacity: 400-600 liter per hour

A complete evaporator stage with evaporator, a separator to separate the vapors from the residual liquid, a suitable condenser and a Vacuum pump to be supplied.

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

### **General**

7. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
8. The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
9. The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **HE-16. SPECIFICATIONS FOR 'ROTAVAPOR'**

### **SPECIFICATIONS FOR ROTARY EVAPORATOR (5 L)**

- Rotary Evaporator with large digital minimum 3 " LCD
- Display indicates rotation speed, heating bath temperature and Vapour Temperature.
- Sample flask capacity should be 50ml to 5lts.
- Digital heating bath capacity should be minimum 4.0 Lts with temperature control, and temperature sensor.
- Maximum temperature of heating should be at least 180°C.
- Condenser for standard distillation (vertical assembly), receiving and evaporating flasks, corrosive -chemical resistance seals
- Oil free 2-stage diaphragm pump (chemically resistant) with vacuum controller.
- Ultimate vacuum should be minimum <10 mbar

**System should be complete in all respect with accessories and required utility.**

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **HE-17. SPECIFICATION FOR 'STIRRERS PILOT SCALE'**

- It should be a Programmable, microprocessor controlled stirrer to offer high performance features and precise control with calibration.
- Control should be either the top plate surface temperature or the liquid temperature when using the PTFE-coated probe.
- It should have technology to provide smooth slow speed stirring and rapid braking.
- Should have Integrated ring stand, single knob design and RS232 output.
- Should be easy to clean and resist alkalis and acids.
- Cast-aluminum base to divert spills from internal electronics.
- Material surface should be ceramic.
- Temperature range should be at least RT +1° to 200°C or better

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

ANNUAL MAINTENANCE CHARGES: The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **HE-18. SPECIFICATIONS FOR 'ROTAVAPOR'**

### **SPECIFICATIONS FOR ROTARY EVAPORATOR (50 L)**

- Dual Interchangeable receiver for continuous operation.
- Standard bath supplied can be used for both water & oil ( 0 –150<sup>0</sup>C)
- Motorised lifting/ lowering of the bath.
- Wide evaporating flask neck for easy removal of sample
- The evaporation flask should be sturdy and comfortable to use.
- Rotation speed is 5- 100 rpm or better
- The system is automatically aerated in case of power failure
- Flask sizes of 10,20 and 50 litres can be used
- Total Condensation capacity: 1-1.5sq.mtr
- Evaporator capacity : upto 20-30 liters or better of Acetone /hour
- Evaporation flask outlet suction.

#### **Vacuum controller**

- Easy operation with control knob, graphic display
- Solvent database for convenient setting of distillation conditions.
- Speed control for vacuum pump.
- Measuring range 1200- 0 mbar suitable for the system
- Control range 1000- 1 mbar.
- Aeration and precision pressure sensor.
- Timer function for process termination after pre-specified time

#### **Pump**

- Nominal pumping speed :40 m<sup>3</sup> · h<sup>-1</sup> or better
- Pumping speed:35 m<sup>3</sup> · h<sup>-1</sup>
- Ultimate partial pressure without gas ballast:≤ 0.8 mbar
- Ultimate total pressure with standard gas ballast:≤ 1.8 mbar
- Water vapour tolerance:40 mbar
- Permissible ambient temperature:12-45 °C
- Nominal speed:1200 min<sup>-1</sup>
- Motor protection and isolation class:55-F IP

**System should be complete in all respect with accessories and required utility.**

#### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **HE-19. SPECIFICATION FOR 'DISTILLATION EQUIPMENT'**

Capacity: 50 L/hr

MOC: Stainless Steel (316/304)

- Distillation tank with steam coil
- Condenser (multi-tube tubular)
- Oil separator or receiver
- Boiler

**Essential Accessory:** All compatible accessories and consumable must be quoted.

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **HE-20. SPECIFICATION FOR 'VACUUM OVEN'**

- It should be a vacuum oven to minimize operation time with outstanding heat transfer and fast heat up.
- It should be a Jacket-heated model with microprocessor control.
- Gentle drying of heat sensitive materials
- Should be reduced drying times when compared to conventional oven without vacuum.
- Should come with RS 232 computer interface.
- Should come with Stainless steel vacuum connection kit for tubing, 10mm diameter
- Chamber volume: 25-30 Ltrs
- Temperature Range: Amb. +5 to 200 °C
- Electrical Requirements: 220V; 50/60Hz
- Microprocessor: PID Control / Auto-tuning/Calibration

**VACUUM PUMP:** Suitable Vacuum pump to obtain high Vacuum. Oil mist trap/ moisture trap to prevent inflow should be quoted along with vacuum pump.

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## FERMENTATION FACILITY

### **FF-1. SPECIFICATION FOR 'BOD INCUBATOR'**

**Features:**

- Providing fast and accurate results
- CFC Free Refrigerant

Temp. Range	: 5°C to 60°C
Accuracy	: ±0.5°C
Temperature controller	: Digital PID
Display	: LED display
Inner chamber	: SS 304
Door	: Double door, with silicon packing
Inner door	: Tempered safety glass
Safety device	: over/under temperature protector
Capacity	: 400 ltrs

**Construction Details:** BOD Incubator should be double walled cooled unit. The gap between the outer and the inner wall should be filled with special grade glass wool to prevent thermal losses.

**Air circulation:** Air circulation fans for maintaining temperature uniformly throughout the chamber.

**Refrigeration Unit:** Refrigeration unit is formed by ISI marked compressor/cooling kit.

**Optional Accessories:-**

- Light system by interior illumination with fluorescent
- Timer 0-24 hours for regulating cycle's illumination condition
- Arrangement for incubation of CO<sub>2</sub> Air Mixture
- Humidity controller
- Suitable Automatic Voltage Stabilizer

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **FF-2.SPECIFICATION FOR 'PASS BOX'**

- Material of Construction:
- SS 304 Sheet 16g Thick
- With Electromagnet Inter Locking Systems
- With 3 mm polycarbonate sheet in Door
- With U. V. & fluorescent light with Matt finish
- Size: 2 ft. W x 2 ft. D x 2 ft. Ht.

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).



### **FF-3. SPECIFICATIONS FOR 'SHAKER'**

- Microprocessor control for accurately display the time & the speed parameters
- Speed: 300 RPM- 1500 rpm or better
- Display: Digital display
- Integral timer: 99.0 hr.
- Motion: Orbital
- Drive System: Beltless direct drive
- Noise: lower than 30dBA
- Power: 220V, 60Hz
- DC brushless motor, long life, maintenance free

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

#### **FF-4. SPECIFICATIONS FOR 'WEIGHING BALANCE'**

##### **Specifications:**

1. Minimum weighing Capacity/Readability:1g
2. Max. capacity : Around 6 Kg
3. Tarring facility : Entire range
4. Weighing pan dimension : Around 350x350 mm or more
5. Response time: 4 sec or better
6. Should operate on 220 ± 10 Volts 50 Hz AC power supply

##### **Special features:**

1. Digital Weighing Balance with modern & high class & proven technology to provide fast & stable results
2. Chemically Resistant, durable, user friendly housing and base construction; Stainless Steel weighing pan
3. Large digital display with good resolution for clear visibility, easy reading;
4. Easy & user friendly operation
5. User-friendly calibration for direct calibration through key pad
6. Functions for nullify/filter the vibration levels in industrial environment
7. Stability indicator and level control warning when the balance is not level
8. Warning indicator on exceeding weight limits
9. Overload protection
10. Balance check prompts automatically for validation with external weights
11. Interface to connect to computer & printer

##### **Accessories:**

1. AC Adapter, manual, dust cover
2. Compatible Voltage Stabilizer

***Note: The equipment should be provided with all necessary accessories and spare  
Kindly quote break up cost for each item  
Spares and accessories should be quoted separately***

**A warranty of minimum of 3 years should be provided for the above specifications.**

## **FF-5. SPECIFICATIONS FOR 'FERMENTER (5 L)'**

**System should be complete in all respect with accessories and required utility.**

### **Vessel**

- Sterilizable 5 L total volume, SS Jacketed vessel with baffles and air sparger, Longitudinal sight glass assembly sealed through silicone gasket covering the working volume. Impeller rushton turbine, adjustable, Doubled locked steam sterilizable sampling/harvesting port.

### **Motor**

- Drive DC/AC maintenance free brushless motor, Top Driven/bottom driven.

### **Measurement & Control System**

- **Digital control**/display for pH, temperature and rpm, rpm 50-700 approx., Temperature control PID, Operating temperature 0-60°C approx., Regulated air supply with prefilter, Exhaust filter with condenser, Top plate SS with handle, Autosterilizable facility with pressure measurement and control, pH and DO probes (FDA approved like Mettler Toledo, AppliSens etc.), foam and air flow measurement/display and control with pH and DO probe calibration, DO membrane kit
- **Control accuracy**- Temperature  $\pm 0.5^{\circ}\text{C}$ , pH 2-14 approx.
- $\pm 0.01$ , speed (rpm)  $\pm 5$ , DO range 0-100%, Peristaltic pump
- 4 nos. (acid, alkali, antifoam, feed), Vessel temperature maintenance- cooling (through chiller) and heating (through electric heater)

### **Hardware & Software:**

- SCADA based computer software with following facilities( SCADA port/ RS 232 port )
- Batch data, initializing a batch, data acquisition, set point control, manual data entry in batch information, output in graphics or text mode, compare data. Alarms, recipe based algorithms, data export to convenient windows based program.
- Branded Laptop with laser printer b/w compatible with the above system.

### **Power supply:**

- Suitable online UPS power supply to support the system for at least 3 hours in the absence of power.

### **Accessories**

- 6 sets of 250 ml feed bottle with disposable disc filter, silicone tube 50 meters, sufficient no of O-rings, septa etc required for smooth running of the system for five years.

### **Optional:**

Suitable for above specification.

Chiller with circulator

Air compressor: Oil free, can store air upto 2bar.

Steam generator (for steam sterilization): SS steam boiler

Single phase, Quick steam generation, Compatible with the System.

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

ANNUAL MAINTENANCE CHARGES: The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **FF-6. SPECIFICATIONS FOR 'FERMENTER (40 L)'**

- The system should be designed for easy operation and servicing
- The system should be flexibility of various control combinations & custom design
- The system should be complete unit with standard utilities
- The system should have superior design for optimal heat & mass transfer for high cell density
- The system should have dip Sampling facility
- The system should have gas mixing units
- The system should have jacketed Stainless Steel Vessel with fine internal surface finish
- The system should be sight glass for viewing maximum and minimum working volume
- The system should have powerful illumination for clear view of the contents
- The system should have provision for Hot / Chilled Water circulation for temperature maintenance
- Vessel: Total capacity: 40L Make: Stainless steel
- Controller: LS1 Independent
- Temperature control: Sterilizable Pt100 probe, temperature range 4-150<sup>0</sup> C (depending on the available cooling media, IFM-temperature controller for heating and cooling with two set points for cultivation and sterilization temperature, all necessary in-and outputs for data registration and external set point control
- Agitation
  - Drive: AC Motor with mechanical seal, easily removable – Top/Bottom drive
  - Range: 100-1500 rpm
  - Control: Inverter based speed controller
  - Impellers: Four / Six blade Rushton turbine impellers. Other impellers optional
  - Indication: Digital Display
- Aeration
  - Air flow: Standard Rotameter. Thermal Mass Flow Meter /Controller to be offered as option
  - Inlet/Exhaust Filter: 0.2 micron autoclavable PTFE filter cartridge with stainless steel housing
  - Condenser: Exhaust condenser to minimize evaporation
  - Gas mixing Unit
- pH: Range : 0 -14, Probe: Gel filled probes: Control: Using Peristaltic pumps
- Dissolved Oxygen control: In situ sterilizable amperometric pO<sub>2</sub> probe, connecting cable and IFM pO<sub>2</sub> control to activate the final elements. Cascade control via additional IFM control units (agitation etc.
- Antifoam control: level switch and peristaltic pump
- Power requirements : 230 V/ 50 Hz

- Process control hardware: Computer system (High configuration ) for data acquisition and analyses
- The system should have built in SCADA port/ RS 232 port for supervisory control and data acquisition via software through user supplied PC.
- Software: Suitable software for overview of all measurement values and the state of each control unit in the main view (incl. consumption-display), off-line channels, calculated channels (free Programming), note channels, trend graphics, logging files for database-import.
- Utilities like suitable Autoclave, chiller, Air Compressor; Voltage Stabilizer should be quoted as optional.
- Any other required accessories
- All the probe should be standard, (FDA approved like Mettler Toledo, AppliSens etc.) reputed make
- Any other materials required for installation may also be quoted
- Standard set of consumable spares and tools required for Five years (Eg.) O-ring, seal etc
- Suitable online UPS power supply to support the system for at least 2 hours in the absence of power to be quoted optionally.

**System should be complete in all respect with accessories and required utility.**

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**
- **Please give details of appropriate filtration system (Downstream process) for the quoted item.**

**General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **DOWNSTREAM FACILITY (COMPATIBLE WITH THE ABOVE SPECIFIED FERMENTORS)**

### **FF-7. SPECIFICATION FOR 'PERISTALTIC PUMP'**

#### **Item should have below specifications**

- Flow rates 0.005 – 329ml/min
- Speed range from 10 - 100 rpm
- Flow rate accuracy:  $\pm 1$
- Speed setting: Digital
- Electronic speed control: Digital
- Control accuracy motor:  $\pm 0.5\%$
- Digital interface: RS 232
- Flow rate indicator: Digital
- Volume Dosing: 0.05 – 9.9 ml
- Interval dosing: 0.05 – 9.9 ml in breaks
- Foot Pedal connection: Yes
- Safety feature: Electronic current limiter and overheat protection

#### **Essential Accessories:**

- Adaptor for Multi-channel pump
- Multichannel pump head for 4 channel operation
- Suitable cassette for Multi channel pump head.
- Tubing for multi-channel operation.

#### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

#### **General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **FF-8. SPECIFICATION FOR 'TFF SYSTEM'**

- Lab Scale Production type membrane system for R&D and process development
- System should be flame proof.
- System should comprise tangential flow membrane filtration system for Microfiltration (MF), Ultra filtration (UF), Nano filtration (NF) and Reverse osmosis (RO) assemblies/ functionality.
- The membrane system should be standalone configuration that is it should cover all needed components for operation like pump, piping, tubing (include special tubing like Viton tubing), input reservoir, valve, controls etc. as well as required peripherals and add-ons.
- The system should have feed and bleed arrangements/provisions
- The system should have feed permeate and retentate tank/reservoir.
- The quote should include individual price of each membrane.
- NF/RO membrane cut off sizes available should be quoted on unit basis as optional items for user selection if required. The quote should include individual price of each membrane.
- All systems/ assemblies should have pressure regulators/indicators
- Membrane and tubings should be compatible with low pH (about 2.0), High pH (about 10.0)

The system should come with Peristaltic pump/Diaphragm pump, pressure gauge valves, reservoir with inbuilt sritter plate with stir bar, filtration cassette/ holder.

- Max. Inlet Pressure :5-7 bar
- Operating Temperature Range: 4-50 °C or better
- Max. Operating Flow Rate Feed pump: 200 L/hr or better
- Min. Operating Flow Rate Feed pump: 0.500 lpm or better

All wetted components should be made from low protein binding, chemically resistant, biologically safe materials (with material certificates).

**Desirable:** System should have provision to add multiple cassettes in parallel.

**Filtration:** All compatible cassettes/ holders must be quoted. Cassettes / holders from different make should be compatible with the system.

**Computer:** Core i7 processor, 8 GB RAM, 1TB hard drive, 30inch LED monitor, Key board, mouse, USB port 4, Windows 8.1 and above.

**Optional Accessory:** All compatible accessories and consumable must be quoted separately.

**System should be complete in all respect with accessories and required utility.**

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**



## General

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **FF-9. SPECIFICATIONS FOR 'HOMOGENIZER'**

A High Pressure Homogenizer (1-1800 bar or better) to break bacteria, yeast, algae, plant cells and particles present in fluid to the smallest particle size and capability for pressure adjustment.

Processing: Continuous flow

Maximum flow: 10 L/hr

### ***Specifications:***

1. To be used for disruption of microbial cells (*Escherichia coli*, yeast etc.) and to process nano-particulates, nano-dispersions, nano-emulsions, liposomes etc. Also should have capability to process dairy products, liquid food and juices and chemical ingredients and products.
2. The equipment should be free from using any kind of compressed gas including air for its operation.
3. Aseptic containment system, CIP/SIP cleanability and cGMP compliant.
4. Should consist of high quality stainless steel and high wear resistance materials; homogenizing valves: high wear resistance, in tungsten carbide/ ceramic; pistons: tungsten carbide coated SS/solid ceramic.
5. Of pressure trend diagram and with built-in safety protection against over pressure.
6. FDA approved gaskets and elastomers. Product contact materials and surface finish should be as per FDA regulations.
7. Jacketed feed tank (SS 316L), minimum 15 L volume, with cover
8. Sanitary tri-clamp connectors, SS base frame with adjustable anti-vibration feet to be supplied.

**Essential Accessory:** All compatible accessories and consumable must be quoted.

- The additional cost for cGMP certification, IQ/OQ/PQ documentation, if any, should be quoted as optional items.
- Chiller/ Low Temperature Circulator to be quoted.

**System should be complete in all respect with accessories and required utility.**

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **FF-10. SPECIFICATION FOR 'FREEZE DRYER'**

- Upright stainless steel collector coil capable of removing upto 4 Lts. of water in 24 hrs
- Should hold 6 litres of ice before defrosting
- CFC-Free refrigeration system to cool collector to -50°C (-58°F)
- LCD display of system vacuum
- Collector temperature and alarm messages; LED vacuum and temperature “waves” for display of relative system vacuum and collector temperature
- Automatic start-up switch for collector cool down
- Suitable Pump suction capacity with oil mist filter
- Vacuum pull down with manual override switches
- Clear Drying Chamber and Valve with explosion proof coating.
- Provision for freeze drying in bottles, flasks, ampoules ; adaptor for various flask sizes, Seal crimper etc

### **Optional Accessories**

- Teflon coated collector
- Built-in stoppering Tray dryer
- Ampoule valve adapters
- Pre-scored flat bottom ampoules (1 ml, 5ml)
- Serum bottle
- Trident adapter
- Compatible voltage stabilizer
- Seal crimper

**System should be complete in all respect with accessories and required utility.**

#### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**

### **General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **FF-11. SPECIFICATION FOR 'ULTRA FILTRATION SYSTEM'**

The system should be easy to use laboratory-scale separations system that uses cartridges/holders for quick and efficient concentration and diafiltration of a wide range of biological solutions. The system should be capable of rapidly processing solution volumes up to 300 ml/min. The system should come with pump, membrane, filtration cassette/ holder etc.

- Hollow fibre / cassette based (Ultra filtration) or both, suitable for lab scale ultrafiltration
- System should be with suitable pump with power cord, pump head, with integrated sanitary pressure monitoring devices.
- System should be supplied with suitable feed pump
- Variable speed pumps with bidirectional flow
- Max. inlet Operating Pressure 0-5 bar maximum
- Operating temperature 5-40°C
- Minimum Ultrafiltration processing volume of 20 ml or less
- Flow rate should be 20-300 ml/min or better with programmable calibration of flow rate and pressure
- Suitable hollow fibre /cassette of 3kDa,10 kda 50 kDa, 100 kDa, 300 kDa, 500 kda,750 kda to be supplied.
- Should have indication of low and high pressure and automatic cutoff of high pressure pump for preventing membrane damage.
- System should have a digital LED/LCD interface/ or a provision of PC connectivity for display and data logging of pumps displays inlet, outlet, TMP pressures, high/low pressure alarm points.
- System should be controlled data logging and have option to record data and graphs in real time process preferably in Excel format.
- Membrane and tubings should be compatible with low ph (about 2.0), High ph (about 10.0).

**Computer:** Core i7 processor, 8 GB RAM, 1TB hard drive, 30 inch LED monitor, Key board, mouse, USB port 4, Windows 8.1 and above.

**Optional Accessory:** All compatible accessories and consumable must be quoted separately.

**System should be complete in all respect with accessories and required utility.**

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

### **General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.

- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**Annual maintenance charges:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **FF-12. SPECIFICATIONS FOR 'FRENCH PRESS'**

- Should be a motor driven laboratory press and capable of reaching 40,000 pSi.
- Should provide a regulated working pressure throughout the operation for the
- Uniform and complete disruption of cells.
- The instrument should include two cells of 35 ml capacity and necessary spares for the operation of the equipment.
- The instrument should come with a suitable stabilizer.

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**System should be complete in all respect with accessories and required utility.**

**A warranty of minimum of 3 years should be provided for the above specifications.**

ANNUAL MAINTENANCE CHARGES: The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **FF-13. SPECIFICATIONS FOR 'VACUUM PUMP'**

### **High Vacuum Diaphragm Pump with following feature and specification:**

1. Efficient, chemically resistant two or three stage diaphragm pump (combination pump) for laboratory use.
2. Ultimate vacuum: < 5 mbar
3. Flow rate: around 40 lit/min
4. Pumping speed (m<sup>3</sup>/h): around 3 m<sup>3</sup> / h or better
5. Pressure/vacuum indicator should be there
6. 100% contamination free (oil free) transfer
7. Gas blast valve should be manually operated
8. Wetted parts should be made of high quality durable material
9. Vibration free
10. Noise free
11. Thermistor controlled start up capacitor for start
12. Imbedded thermostat system to be provided to cut out pump if motor overheats
13. High class safety and protection
14. Operating voltage: 230 V; 50Hz/60Hz

### **Essential Accessories & Spares:**

1. Moisture Trap/ Solvent Trap
2. Rubber/silicon Tubing
3. Sealing/Gasket

***Note: The equipment should be provided with all necessary accessories and spare  
Kindly quote break up cost for each item  
Spares and accessories should be quoted separately***

**A warranty of minimum of 3 years should be provided for the above specifications.**

## **PURIFICATION FOR THE ABOVE FACILITY**

### **FF-14. SPECIFICATIONS FOR 'FPLC SYSTEM'**

Versatile Chromatography System, completely Bio-compatible and inert for protein purification with a suitable piston pump meeting the following specifications

**Two pumps System:** Pumps flow rates ranging from 0.001 – 10 ml/min or better without addition or removal of any parts or re-plumbing or changing pump heads.  
Pressures limit up to 20 Mpa or better.

**Conductivity monitor:** Built in conductivity monitor for on-line monitoring of the true gradient with an integrated temperature sensor for variations in conductivity due to the temperature. The conductivity monitor should have a broad reading range 0.01 mS/cm to 800 mS/cm or more.

**pH module:** In-line pH Monitor, pH Valve with integrated pH electrode, Should provide calibration port and flow-restrictor for prevention of formation of air bubbles in UV-flow cell.  
pH reading range 0 to 14

**UV/VIs Detector:** Should be equipped for 190- 700 nm with three wavelength detection simultaneously. Lamp life should be minimum 3000 hrs. Automatic calibration

**Column control:** Column control valve should allow connection of minimum one column and have an integrated bypass function. The column control valve should allow reverse flow through the column for fast and effective elution of strongly bound proteins, sharper bands, and a concentrated target molecule eluent.

**Fraction collector:** Fraction collector that can accommodate vessel type of different sizes upto 50 ml tubes.

#### **System Control and analysis software:**

Should be latest, compatible, efficient user friendly software with upgradable features.  
System software should have Evaluation procedures and Customizable report format  
Software should be modular.

Software should allow robust Database storage, easy access to data, data security, and data integrity.

#### **Computer, Printer & suitable online UPS for System**

##### **Optional:**

- **Columns:** All available compatible columns of various sizes must be quoted. Ion Exchange Column kit with pre packed columns of varying capacity. HIC kit containing pre packed column.
- **Online Buffer preparation:** The instrument should have an option of automated on-line buffer preparation for increasing throughput by speeding up the development process for facilitating screening of optimal buffer compositions.



- **Automated Sample Injection:** System must be capable of carrying out accurate gradients equipped with automated sample injection. The system must have the option of sample pump integrated into the system which minimizes any wastage by placing sample pump away from the system.
- **Automated Fraction Collector:** Automated fraction collector compatible for the system with option to collect fraction in 96 well plates with suitable diverter valve and fittings kit.

**System should be complete in all respect with accessories and required utility.**

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

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## **FF-15. SPECIFICATION FOR 'CHROMATOGRAPHY UNIT'**

System should be a gradient based system.

### **Pump**

- System should be capable to generate a flow rate from 0.2-3.0 lpm, with a maximum operating pressure of 6-8 bars. Pump should be 2-3 head diaphragm pump.
- System should come with four inlets, two from each pump, having gradient capability.
- System should be able to work in temperature range of 2- 30<sup>0</sup> c or better (Must quote if higher temperature range is available).

### **Detector**

- System should be capable of monitoring multiple wavelengths across the range. Should be capable of monitoring two or more wavelengths simultaneously.
- All other accessories and features available with the detector system must be quoted optionally.

### **Pressure Measurement**

- System should be inbuilt with the pressure sensor for monitoring the pressure and delta pressure.

### **In built air trap/ air sensor**

- Air sensor and air trap should be placed before the column in preventing air going into the column.

### **System should come with following parameter monitoring pre column/ post pump**

- Pressure
- Conductivity meter(0.1 - 999 ms/cm)
- Temperature
- Flow meter
- Air detection

### **System should come with following parameter monitoring post column:**

- Conductivity (0.1 - 999 ms/cm)
- Temperature
- Ph
- UV

### **Software**

- The system should be an industrial design, with frame, cabinet and support made of SS 316
- System should be fully automated, support from software running. Software should be capable of running the system in manual and automated mode.
- Software should be 21 CFR controlled capable of doing sample run evaluation and generating report.
- Computer with One 30" LCD Monitor, Network able colour Laser printer and online UPS for at least 60 minutes backup.

**Columns**

- All available columns and resins must be quoted optionally.

**System should be complete in all respect with accessories and required utility.**

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

ANNUAL MAINTENANCE CHARGES: The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **FF-16. SPECIFICATION FOR 'FIXED GEL FILTRATION AND ION EXCHANGE COLUMN'**

Columns to meet the needs of process development and biopharmaceutical manufacture:

- Glass or acrylic chromatography columns of Scalable. Inner diameters (i.d.) of 100 mm to 450 mm, and bed volumes from 5 up to 100 liters. Pressure rating should be 6-8 bar
- Columns should be riboflavin clearance test performed and subsequently cleaned with 0.5 M NaOH. Columns should be designed for clean-in-place (CIP), low maintenance, and sanitary operation. Smooth surface finish minimizes entrapment of contaminants and prevents corrosion.
- Columns should be chemical resistant and all materials used in the manufacture of the column that come into contact with the process stream either conform to relevant sections of the FDA Code of Federal Regulations Volume 21, parts 170 to 199, or are non-FDA recognized materials that pass USP Class VI tests for toxicity.
- Mechanism to support the flow distributor, ensuring the assembly to move easily during packing and unpacking. The flow distributor should make it easy to pack uniform beds.
- Columns should deliver greater product purity at faster linear velocities and these columns should be designed in such way that it should be used with any bio chromatography system.
- Columns should be equipped with Flow Distributor Ensuring reliable and Safe Operation.
- Durable frame design and construction, as well as robust tube materials to ensure excellent physical stability.
- Columns should be equipped with full line of accessories and installation kits enabling quick set-up. Versatile configurations making it easy to adapt columns for use in multiple process applications.
- IQ & OQ service should be provided.

**System should be complete in all respect with accessories and required utility.**

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

## **BIOINFORMATICS FACILITY**

### **BI-1. HARDWARE:**

- Latest hardware units with upgradable facility capable of handling modern and diverse bioinformatics software.
- Desktop/Laptop computers with latest windows version, i5/i7, plus graphic card
- Latest work station xenon processors
- Colour laser printer
- B/W laser printer

All other necessary and compatible accessories.

### **BI-2. SOFTWARE**

- Latest upgradable bioinformatics software for diverse applications
- Anti-virus
- Statistical Packages etc.

## UTILITY

### UT-1. SPECIFICATION FOR 'DRY HEAT STERILIZER'

Dry heat sterilizer for function like sterilization, drying and heating; sterilizing empty bottles, flasks, and other laboratory equipments etc and sterilization of liquids with low moisture content or powder particles etc.

#### General Specifications:

1. Useful volume approx: 300-350 Litr
2. External/internal body and other parts like tray etc should be made of high quality material like SS316 or better
3. Operating Temperature: Ambient +5°C to 300°C or more
4. Temp. Set and display sensitivity: <1 °C
5. Temp. Variation: ± 1 °C
6. Sterilization/operating Cycle: 3 or more cycle ranging in between 5- 10 minute
7. No. of Shelves : Minimum 2 (tilt proof chromium plated or better quality)
8. Silicon or better door gasket to ensure zero leakage during the operation
9. Motor and blowers to circulate air for uniform atmosphere, provision for forced air convection at 180 °C Wh/h
10. Microprocessor control system and digital displays, Digital sample temperature display; control panel option
11. 24 hour timer for preheating or timed shutdown, with temperature sensor
12. Alarm for sterilizing and fault state, buzzer alarms when a cycle of sterilization is completed
13. Provision for door safety locking system
14. Electrical Requirements: 220-240V; 50/60Hz

#### Optional Accessories:

1. All important spare parts, shelves, accessories etc with their part number and costing

***Note: The equipment should be provided with all necessary accessories and spare  
Kindly quote break up cost for each item  
Spares and accessories should be quoted separately***

**A warranty preferably of 3 years should be provided for the above specifications.**

## **UT-2. SPECIFICATION FOR 'VERTICAL AUTOCLAVE'**

- It should be double walled construction.
- The inner chamber should be steam jacket and outer chamber and the lid should be of stainless steel (SS 304)
- It should have microprocessor based programmable controller with LED/LCD Display.
- It should have water level gauge.
- Should have temperature and pressure indicators.
- Should have safety & Eject valve.
- It should be provided with a joint less silicone gasket.
- Working temperature should be 121 °C (134°C Optional)
- It should have the mechanism for low water protection.
- It should be provided with water inlet and outlet pipes.
- Capacity should be 50 Ltrs.
- Supplied with traceable certificate for Pressure Gauge and Temperature Indicator.
- Stainless Steel wire mesh carrier and heater cover stand.

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

### **UT-3. SPECIFICATION FOR 'ICE FLAKER'**

#### **Efficient Ice flaker with following specifications:**

1. Bin capacity: 40 Kg or more.
2. Ice Production: Capacity: 100 Kg/24 hours or more.
3. Fully Automatic single switch operation.
4. Cabinet & Insulated Bin made of Stainless Steel 304.
5. Leak proof refrigeration system.
6. CFC free Refrigeration system
7. Air Cooled Condenser.
8. Noise Level not more than 60 dBA
9. Safety features Low water pressure cut off, Bin full cutoff, low refrigeration cut off etc.
10. Automatic Restart.
11. Overload protection to protect Compressor, Gear Motor *etc*
12. Separate circuit for Refrigeration and water.
13. No moving part in the Refrigeration circuit of evaporator.
14. Optical triple filter and hygiene accessories.
15. Power consumption not more than 0.5 KW.

***Note: The equipment should be provided with all necessary accessories and spare  
Kindly quote break up cost for each item  
Spares and accessories should be quoted separately***

**A warranty preferably of 3 years should be provided for the above specifications.**



#### **UT-4. SPECIFICATION FOR 'NITROGEN GENERATOR'**

##### **Efficient Nitrogen Generator for common utility facility**

Efficient, noise free, low space occupying Nitrogen Generator to produce nitrogen for laboratory & scaling up facility

(Nitrogen generators with different capacity may be quoted separately)

1. Minimum Operating Ambient Temperature 5°C/ 41°F
2. Maximum Operating Ambient Temperature 30°C/ 86°F
3. Maximum relative Humidity 70%
4. Particles < 0.1 µm
5. Phthalates: None
6. Suspended Liquids: None
7. Outlet 1/4" BSP 1
8. Pressure Gauges 1
9. Start Up Time: 30 minutes or better
10. Noise Level: 54 dBA @ 1m
11. Electrical Requirements: 230V ,50/60 Hz, 7A

***Note: The equipment should be provided with all necessary accessories and spare  
Kindly quote break up cost for each item  
Spares and accessories should be quoted separately***

**A warranty preferably of 3 years should be provided for the above specifications.**

## **UT-5. SPECIFICATION FOR 'COLD ROOM'**

- 63mm puff insulated Pre-coated Panel
- Automated cooling control system
- Temperature Range minimum  $3\pm 1$  °C
- Raised platform from the ground level
- Cooling through frost free industrial air conditioner capable to operate 24 hrs
- Tiled flooring

### **Note:**

- **The facility should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

### **General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.
- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **UT-6. SPECIFICATION FOR (I) 'BOILER FOR R&D, PP WORK AND (II) 'BOILER ACCESSORIES'**

High performance Boiler for R&D and PP work & Boiler Accessories for biotechnology related processes like Fermentation and other

Units of different capacity and different design may be quoted separately as 'complete boiler unit'

Each unit should comprised of basic requirements of boiler and other requirements high performance and safety

### **Boiler:**

1. Main Vessel/tank
2. Mountings: With all the preliminary and safety mountings viz;
  - i) Two safety Valve
  - ii) Two Water level Indicators
  - iii) Pressure Gauge
  - iv) Fusible Plug
  - v) Steam Stop Valve
  - vi) Feed Check Valve
  - vii) Blow off check
  - vii) Man & mud hole
3. With high Safety and alarm system

### **Boiler Accessories:**

- i) Air pre-heater
  - ii) Economiser
  - iii) Super heater
  - iv) Feed pump
  - v) Injector
4. Constructed in accordance with ASME code

### **Note:**

- **The facility should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

### **General**

- The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute. Critical piping needed for standard installation and operation should also be quoted with price as included.

- The bidders must agree to undertake that the system would be transported and re installed again at permanent campus of Guwahati Biotech Park free of cost if so required during next five years.
- The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

**A warranty of minimum of 3 years should be provided for the above specifications.**

ANNUAL MAINTENANCE CHARGES: The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## MISCELLANEOUS

### (EQUIPMENTS REQUIRED IN MORE THAN ONE FACILITY)

#### **MIS-1. SPECIFICATION FOR 'LAMINAR FLOW HOOD'**

The instrument is to meet the requirement of U.S. Federal Standard 209B (BS-5295) providing particulate particle free to air to meet class 100 (class conditions).

- Work Zone : Completely in Stainless Steel (304)
- Filter Type : HEPA filter
- Efficiency : 99.99%
- Particle Retention : 0.3 Micron
- Pre Filter : Disposable, Non washable polyester fiber
- Cleanliness : Class 100
- Ultra violet tube light : 3 feet, 30 Watt
- Illumination of work surface: Fluorescent tube light.
- Blower-motor assembly : Dynamically balanced
- Noise level : <65 decibel
- Digital LED/LCD graphical display showing the controlling of the different parameters.
- Front Sash : Shattered proof Glass door (Preferably Motorised)
- Power: Works on 220-230 V AC, 50Hz.
- IQ, OQ, PQ documents with Material Test should be provided
- Certificates And Calibration reports

To be supplied complete set with S.S. Table top, Hepa Filter, Pre Filter, Fluorescent Illumination, Transparent Front door, U.V. Tube, Cock for Gas, Air flow Vacuum Line etc.

#### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

**ANNUAL MAINTENANCE CHARGES:** The party must mention in the rate/amount of annual maintenance charges, if we opt for maintenance contract after expiry of the warranty period. This is mandatory to mention (AMC charges should be mentioned only in the commercial bid).

## **MIS-2. SPECIFICATION FOR 'MICROWAVE OVEN'**

- Type : Multifunctional Mode ( Convection, Grill, solo combination mode etc)
- Capacity : 25-32 L
- Control Type : Touch Key Pad
- Auto Menu : Yes
- Door Opening Mechanism : Push Button

### **Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

### **MIS-3. SPECIFICATION FOR 'REFRIGERATOR'**

- Digital LED display control panel on the inside of refrigerator
- Capacity (Litre):400
- Star Rating : 4/5
- Cooling Technology: Ice Bean Door Technology
- Refrigerant: Ecofriendly
- Temperature Control: Internal Microcom
- Compressor: Smart Inverter Compressor
- Works without stabilizer
- 100V-290V LVS

**Note:**

- **The equipment should be provided with all necessary accessories and spare**
- **Kindly quote break up cost for each item**
- **Spares and optional accessories should be quoted separately**

**A warranty of minimum of 3 years should be provided for the above specifications.**

#### **MI-4. SPECIFICATION FOR 'DEHUMIDIFIER'**

- The machine should have in built automatic hygostat to maintain desired RH of 40-60%
- It should have the capacity of coverage up to 2500-3000 cu. ft.
- The machine should have the extraction capacity of up to 50 lit/day or more at RH 40-60% at 2-35°C with auto humidity sensor and thermostat.
- It should work at 220-240 V/50hz.
- The coolant of the machine should be CFC free refrigerant.
- Noise level of the machine should be less than 60 db along
- Humidity setting should available with the machine along with an electronic Liquid Crystal display to clearly view the humidity and temperature reading along with other settings.

***Note: The equipment should be provided with all necessary accessories and spare parts***

**Kindly quote break up cost for each item**

**Spares and accessories should be quoted separately**

**A warranty preferably of 3 years should be provided for the above specifications.**