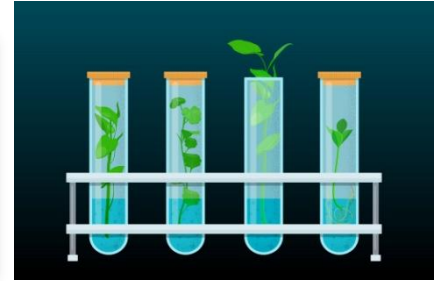




**GUWAHATI
BIOTECH PARK**



Expression of Interest (EOI) for leasing out

Plant Tissue Culture Laboratory

under Micropropagation facility,

Technology Incubation Centre,

Guwahati Biotech Park, Amingaon, North Guwahati-31



EOI For leasing out Plant Tissue Culture Laboratory under Micropropagation facility, Guwahati Biotech Park

1. A brief about Guwahati Biotech Park

Guwahati Biotech Park (GBP) is the first Biotech Park in North East India and is a joint initiative of Govt. of Assam and Department of Biotechnology (DBT), Government of India. The objective of GBP is to encourage and support the startup, incubation, innovation led business in biotechnology and allied areas accelerating entrepreneurship development and biotech industrial ventures in North East India. GBP provides laboratory infrastructure, instrument facility, business enterprise zone (BEZ), business support facility and other scientific and technical support to entrepreneurs in biotechnology or related areas in North East India and neighbouring countries connected to Assam, India.

The Technology Incubation Centre (TIC) at Guwahati Biotech Park is developed to lease out its state-of-the-art R&D infrastructure to entities and entrepreneurs who wish to develop innovative products in the field of biotechnology and allied areas. The TIC, GBP is the first-ever biotechnology incubator in eastern India, has been promoted by the Assam government to promote entrepreneurship in biotechnology and related areas in the northeast. It also intends to encourage industrial growth to ensure proper and effective utilisation of the huge bio-resources in the region. The permanent campus of TIC, GBP is now located at Triptinagar, near SP Office, Amingaon, Guwahati-31, invites companies to engage in innovative technologies in four key areas, namely healthcare and pharmaceuticals, agro-technology, food processing, and bioinformatics.

2. Objects and activities of the Guwahati Biotech Park are:

- To encourage and support the start up, incubation and development of innovation led, high growth knowledge based business in the multidisciplinary area of biotechnology.
- To provide state-of art infrastructure facilities and single window services for setting up biotechnology, chemical and biological industries in the park.
- To act as an engine for the growth of the biotechnology, chemical and biological industry and to act as a facilitator and a catalyst in the process of industry's development.
- To provide formal and operational links with centers of knowledge creation such as national R&D laboratories, Universities, Medical Institutions and research organizations in India and abroad and create a strong network.
- To promote setting up biotechnology industrial ventures, contract research organization and healthcare industry.

3.Introduction of Micropropagation:

Micropropagation is presently most successful and widely commercialized technique of Plant Biotechnology. It is the clonal propagation of plants in closed vessels under aseptic conditions. The micropropagation technology has a vast potential to produce plants of superior quality, isolation of useful variants in well-adapted high yielding genotypes with better disease resistance and stress tolerance capacities.

In this technique the plants are grown on culture media that contain nutrients and growth regulators, and are described as *in vitro*, which means 'in glass'. In contrast, soil-grown plants are described as *in vivo*. Plants that are propagated *in vitro* are smaller than *in vivo* plants, hence the term 'micropropagation'

Plants can be produced both asexually i.e, via vegetative parts' multiplication or sexually i.e., seed production. One of the means of asexual reproduction is by multiplying genetic replicas of plants that are referred to as clonal propagation wherein plants can be populated from a single individual through asexual means of reproduction. For the *in vivo* propagation of specific plants, asexual reproduction via multiplication of vegetative parts is the only resort since they do not generate functional seeds as seen in figs, grapes, bananas etc. Successful application of clonal propagation to the following is observed: potato, apple and many other ornamental plants.

During the past 30 years, an organized industry on plant tissue culture has developed which has grown into a multi-million dollar industry Tissue culture Industry in India has shown notable growth @15 % per annum. India, currently has the fastest growing tissue culture market in the world. India has shown constant rise in demand for export of tissue culture plants particularly from countries like USA, New Zealand, UK, Belgium, Singapore, Australia, Korea, Japan, Canada and Malaysia. Most of the commercial tissue culture units in India are concentrated in the southern, central and western India with gross installed production capacity of about 500 million plantlets per annum and an actual production of approximately 350 million plants. The plant tissue culture market in India is estimated at Rs

700 crores. Banana, Spices, Potato, Medicinal Plants, Sugarcane, Turmeric, Apple, Strawberry, Stevia, Gerbera, Anthurium, Lillium, Orchids, Bamboo, DatePalm, Teak and pomegranate are some of the major plants tissue cultured in India.

The micropropagation technique has proved beneficial in many ways. Following are the advantages of micropropagation in plant production:

- This is an alternative method for vegetative propagation with enhanced multiplication rate.
- Large quantities of identical plants can be obtained from a single plant tissue within a very short time period.
- The shoot multiplication has a very short cycle and each cycle results in a logarithmic increase in the number of shoots.
- The small-sized propagules can be stored and transported easily.
- The germplasm stocks can be maintained for several years using this technique.
- It helps in the production and maintenance of pathogen-free plant varieties.
- In a dioecious plant, the seed progeny yield is 50% male and 50% female. This method helps in obtaining the desired sex of the plant.
- Millions of plantlets can be maintained in the cultural vials.
- Genetic uniformity of the propagules can be maintained through this technique.
- It is a cost-effective process & new varieties of species can be propagated.
- A requirement of less space and human resources.
- This method is independent of season and can be carried out anytime.
- Often produces healthier plants, leading to quicker growth compared to those plants produced by a conventional method.

Currently Guwahati Biotech Park at Amingaon, Guwahati, has a newly built up Plant tissue culture lab under its Micropropagation facility of Technology Incubation Centre, GBP. It has all major infrastructure and tissue culture equipments with laboratory facilities including a large size Green house including cold room to provide work space for students, researchers entrepreneurs etc.

4. Vision of the Micropropagation Facility

The facility is envisioned to produce disease free seed plants like flowering plants, Orchids, Bananas, food crops and other medicinal and horticultural species with economic value. It is also envisioned to carry tissue culture laboratories based and field research for propagation of other plants of economic value, with revenue generation under PPP to be shared as per mutually agreed terms. Proposals for this mode of collaboration will be taken up at a subsequent stage.

5. Propose for Interior Phase

Guwahati Biotech Park is looking for a startup/ company /organisation to use the micropropagation facility as it exists for production of plantlets and use the laboratory facility for their related research leading to commercialization. The agency selected for this purpose will have to maintain the facility as per desired standard guidelines of GBP. Initially the facility will be available for use for a period of two years, extendable on mutually agreed terms.

6. Fees

The related agency will have laboratory spaces, instruments, premises, facilities for nurturing and production of plantlets and use in research and development facility. This unit is designed for producing plantlets in-vitro and also developing hardening facilities for the same (green house). The user charges for laboratory space, green house and equipment will be as per official rate of Guwahati Biotech Park. The charges for electricity, water, internet and other services (maintenance rate) will have to be paid monthly as per actual consumption by the agency separately. The marketing of the produce from the facilities will be the responsibility of the applicant.

The applicant have to pay an application and processing Fee of Rs. 1000/-only;

For deposit through bank, the bank detail is as following:

Account Name : Technology Incubation Centre GBP

Account Number : **918010089862862**

Bank Name : Axis Bank

IFS Code : **UTIB0003343**

7. Submission of the proposal

The Interested start-up/ company/organization/ agencies may submit their offer/proposal as per the open application format of TIC, GBP through email or link on website for consideration.

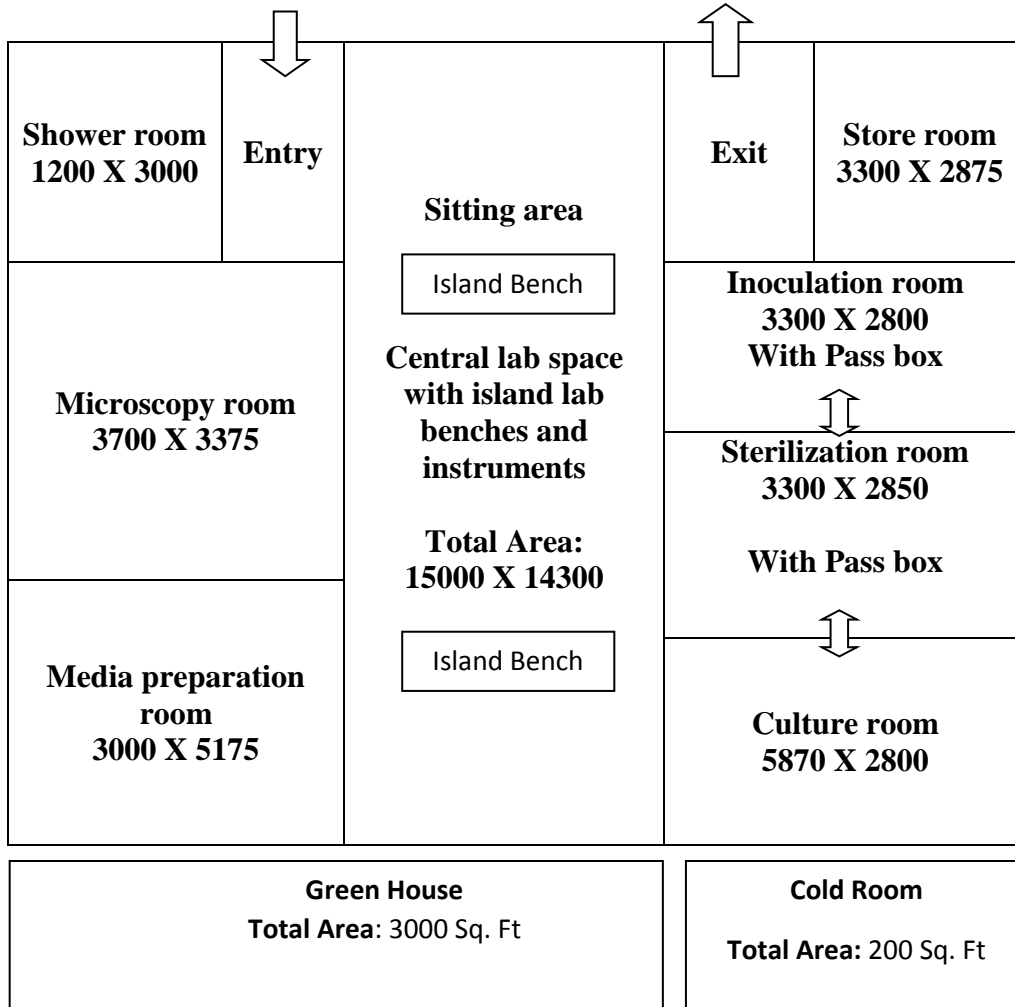
Applicant will pay for utilizing the facilities i.e. Laboratory, Equipments, Green House, & Cold room.

- The proposal shall be evaluated by taking into consideration the agencies background/vision, outcome, fee to be quoted for all the applications at its discretion.
- There will be subject experts, who will evaluate the strength of the proposal.
- An agreement will be executed between GBP and the selected applicant incorporating terms and conditions and other details by mutual consent.

8. General instructions:

- Indenting applicants are advised to visit the facility to assess the facility details. Visit may be undertaken with prior information.
- Applicants can receive the updates by visiting the GBP website – www.guwahatibiotechpark.com.
- The last date for submission of the proposal is 05.00 pm of 28th February, 2023.
- Proposals may also be submitted electronically to The Chief Executive Office, Guwahati Biotech Park (GBP) and can be mailed to bioedp@guwahatibiotechpark.com.
- Competent Authority of GBP reserves the right to reject any or all the applications without assigning reason(s) thereof.
- GBP will not be responsible for any IPR issues arising on the submitted proposals.

9. Layout of the Micropropagation facility, Green House and Cold Room.



10. Equipment available for Micropropagation at GBP

Sl.No.	Equipment Name	Quantity
1	Autoclave vertical	2
2	Magnetic Stirrer with hot plate	1
3	Electronic weighing balance	2
6	Digital pH meter	2
7	Microwave oven	1
8	Hot Air Oven	
9	Laminar Air flow	3
10	-80 ⁰ C Storage Freezer	1
11	Freezer (-40°C vertical)	2
12	Freezer (4°C vertical)	1
13	Waterbath	1
14	Growth Chamber	1
15	Trinocular Inverted Microscope	1
16	Table top Refrigerated Centrifuge	1
17	Growth Chamber	1
18	Green house	1
19	Cold Room (under utility)	1

**Note: The applicants can also avail the equipment available under other facilities of GBP, viz:

- Central Analytical Instrumentation Facility
- Bioprospecting Facility
- Fermentation Facility
- Herbal Extraction Facility
- Bioinformatics Facility

11. Specification of Green house under Micropropagation Facility

- Total Area: 3000 Sq. Ft
- Shading System with External shading: shading net with rolling arrangements.
 - Internal Shading: Reflective, thermal – aluminium screen silver with manually operating expanding and retracting mechanism
- Equipped with Fogging system (with heavy duty motor), Cooling System (thick evaporative CELDEC cooling pad), Photosynthetically active radiation lamp, Heat convector system, Relative humidity control system
- Controllable Photoperiodic timer cycle, temperature control (1.C – 59.9. C)

12. Specification of Cold Room under Utility Facility

- Total Area: 200 Sq. Ft
- Equipment with Puff insulated pre-coated panel, Automated cooling control system, Temperature range: 3 ± 1 .C, Tiled floor, Frost free cooling, Raised platform from ground

13. For more information please contact:

Dr.Bula Choudhury, Senior Scientist, Guwahati Biotech Park, Ph: 9954757390

Dr. Rajiv Ch Dev Goswami, Research associate, Guwahati Biotech Park, Ph. 8638181323

Email: r.goswami@guwahatibiotechpark.com

Dr.Prajjalendra Barooah, Research associate, Guwahati Biotech Park,

Email: p.barooah@guwahatibiotechpark.com

**Application for EOI Micropropagation Facility at
Guwahati Biotech Park, North Guwahati, Amingaon**

Sl. No	Details about the Applicant	
1	Type of entity: Individual/ Student/ Partnership/ Company/Others (a) Name: (b) Country of incorporation: (c) Address of the registered office, corporate headquarters, and its branch office(s), if any, in India: (d) Registration no. of the entity, if any: (e) Date of incorporation and/or commencement of business(Please submit necessary documents of registration and proof of office address): (f) Phone No. and Email for communication	
1.1	Name of the Project	
1.2	Brief description of the project	
1.3	Justification of the project	
1.4	Adequacy of approach & methodology	
1.5	Project Schedule	
1.6	Feasibility of the project	
1.7	Details of technical expertise	
2	Project Requirements	
2.1	Requirement of space for the project	
2.2	Requirement of equipment (s)	
2.3	Requirement of other facilities, if any	
3	Past experience	
3.1	Area(Broad & Specific)	
3.2	Number of years in the relevant sector	
3.3	R&D set-up in India or abroad, if any	
3.4	Experience in the North Eastern Region of India, if any	
4	Financial Arrangement	
4.1	Mechanism of financing including financial status	
5	Any other relevant information	

Name and Signature of the authorized official:

Date:

Seal:
