Department of Biochemical Engineering and Biotechnology
Minutes of the Departmental Faculty Board Meeting
(DFB-08/2023-2024)

30/04/2024

The eighth meeting of the *Departmental Faculty Board* for the academic session 2023-2024 was held on **Thursday, April 25, 2024,** at **2:30 PM** in the Committee Room of the Department. The main agenda of this meeting was to discuss the modalities of upcoming PG admission.

The following members were present:
Prof. Ritu Kulshreshtha, Chairperson
Prof. KJ Mukherjee
Prof. Atul Narang
Prof. Prashant Mishra
Prof. D. Sundar
Prof. Preeti Srivastava
Prof Shaikh Ziauddin Ahammad
Prof. Ravikrishnan Elangovan
Prof. Ashish Misra
Prof. Ishaan Gupta
Prof. Lucinda Doyle
Prof. Kumari Priti Sinha
Prof. Anjan Roy
Prof. Amit Das, Convener

Item 1: Confirmation of minutes of the previous DFB meeting held on March 18th, 2024
*The minutes of the previous DFB meeting (DFB-07 of 2023-24) held on **March 18th, 2024,** were discussed, and confirmed.*

Item 2: Matters arising if any from the minutes of previous DFB.

1. *DFB discussed the roles of student body members related to OCS activities and specifically pointed out the importance of focusing on core sector recruitments. Prof Ishaan shared his experience as the incumbent OCS coordinator of DBEB regarding this issue.*
2. *DFB discussed the timeline for shifting Prof Ravi's −80c freezer out of common instrumentation facility as requested in the previous DFB. Furthermore, DFB again referred to previous minutes regarding the policy that any equipment is going to be shared till it is in the common instrumentation facility.*

Item 3: Modality of PhD/MTech/MSR entrance and selection of lead PhD coordinator
HOD informed the DFB that for the upcoming PhD selections for the semester 1 of academic year 2024-25, Prof AM and AD will help Prof Zia to shortlist the PhD applications. Prof AD will serve as the PhD coordinator for this particular selection (semester 1 of academic year 2024-25). It was decided that the call letters to the shortlisted students are to be sent latest by May 2.

DFB decided to use the following modality of PhD selection: a written test followed by interviews. The written test to be conducted on May 16th forenoon. Interviews will be conducted on May 16th afternoon and if needed to be continued on May 17th. Tentative details of the written test are as follows:

- *Exam schedule: 9:30 am in LHC, May 16th*
- *Exam duration: 1.5 hrs or 2 hrs depending on the number of questions*
- *Exam duty: Prof LED and Prof KPS*

DFB further discussed the syllabus of the written test. DFB recommended that there should be one set of ~45 questions with limited numbers of questions from specific domains of biochemical engineering and life sciences. The main goal of the test would be to test the analytical skills and problem-solving ability of the candidates.

Prof LED informed the DFB about the details of MSR selections. DFB decided the modality will be same as previous academic year. The details will be announced latest May 2nd on the DBEB website.

DFB decided that the existing process for selection will be followed for MTech and MTech with High Value Assistantship.

Item 4: Replacing Prof Sundar in DBEB committees.
HOD informed the DFB that several departmental committees have been updated replacing Prof Sundar with other faculty members of DBEB. The updated list of committees is appended below:

Updated committees:

Board for Industrial Research & Development (BIRD) – Prashant Mishra

FSC- Preeti Srivastava (Chair), HoD, Durai Sundar (till June 4th, 2024), Ziauddin Shaikh Ahammad, Ashish Misra, KJ Mukherjee, Ishaan Gupta, Anjan Roy (Convenor)

Committee for Write Off- Ziauddin Shaikh Ahammad, Ishaan Gupta, KJ Mukherjee (Chair)

Space Planning and Utilization (including relocation to the new building 99C1) –
HoD, Ravikrishnan Elangovan, Ziauddin Shaikh Ahammad, Preeti Srivastava, Anjan Roy

Item 5: Utilization of the budget 2024-25.
HOD informed the DFB that through the currently allotted budget from the institute about 2-3 equipment from the currently proposed list can be purchased. Following equipment were given preference for purchase keeping in mind the requirement for the 99c when DBEB shifts there:

- *Ice machine*
- *Autoclave*
- *Deep freezer (-20c)*

Item 6: Finalization of vision document and space data of DBEB.
The finalized DBEB vision document and updated DBEB space surrender and retention data are attached as annexure 1 and 2, respectively.

Item 7: MTech student allotment.
Prof AR shared the final allotment list of MTP 2024-25. The updated list is attached as annexure 3.

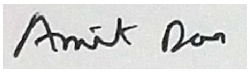
Item 8: Training needs for the Technical and Administrative staff members.
DFB discussed the matter of possible training that may be undertaken by the technical and administrative staff members as per the request from JR CDN. DFB recommended that the details should be forwarded to the admin and technical staff, and they should be given options to choose. DFB also suggested that the department may make recommendations about specific training based on resources/equipment available in the department. Keeping in mind the requirement of staff in the UG lab for conducting various labs for both UG and PG students, it is suggested that training period be selected during summer or winter break.

Item 9: BAP agenda on multiple options for students for continuation, course passing and graduation requirements.

DFB discussed the following BAP agenda:
https://bap.iitd.ac.in/bap/checklist/check_comment.php?list_no=57&item_no=6

DFB discussed and agreed with the recommendations provided institute has clear guidelines and uniformity in implementation is maintained across various academic units.

The meeting ended with a vote of thanks to the chairperson.



Amit Das,
DFB Convener

Annexure 1:

Department of Biochemical Engineering and Biotechnology (DBEB)

Beyond 2023 – Strategies for DBEB
(April, 2024)

Introduction

Strategic planning and periodic reviews are required to reflect upon our progress, recognizing our current challenges and charting a course for the department's next steps. The present document is in alignment with the Institute-wide vision for developing a strategic plan 2034. The department has around fifty years of rich academic history and strong educational endeavors. It was felt that a review of its activities and finding innovative ways is required to stay abreast and expand its programs to attract outstanding students and faculty. It is especially timely for the following reasons – there are rapid advances happening in cutting-edge research areas such as omics technology, synthetic biology, bio-nanotechnology, etc and to continue to serve as an academic unit that nurtures innovation and leadership in the broad area of Biochemical Engineering and Biotechnology.

Vision

DBEB's vision for the next decade is to be recognized for excellence in research and teaching in the following four thematic areas: **Biomanufacturing, Computational and systems biology, Environmental Biotechnology, and Health Sciences and Technology.** DBEB aims to reach new heights by integrating expertise across disciplines of (bio)chemical engineering and biological sciences. The overarching ambition of DBEB is to generate high quality manpower, create new knowledge, and offer solutions to national as well as global challenges.

Mission

DBEB fosters a unique blend of expertise in (bio)chemical engineering, and applied biosciences. Our mission is to produce the next generation of scientists and engineers equipped with theoretical knowledge, experimental and quantitative skills in cutting edge areas of modern biotechnology.
In the forthcoming decade, we will adopt a four-pronged approach advancing our existing goals: teaching, knowledge acquisition and Innovation in our thematic areas: Biomanufacturing, Computational and systems biology, Environmental Biotechnology, and Health Sciences and Technology

- To attract high quality students and world-class faculty and nurture their pursuit for knowledge and new solutions.
- To continuously evolve our UG and PG programs to cater to the demands of industry and academia.
- To provide state-of-the-art infrastructure for executing advanced research and development of new technologies.
- To be a nodal point of exchange of knowledge and implementation of biotechnology solutions globally.

Attracting high quality students and world-class faculty

The future and reputation of the department is highly dependent on the quality of students and faculty at various levels. For the aid of prospective students and faculty, the department will enhance its in-house outreach programs, and amplify its visibility, both at

national and international platforms through social media by recurrently posting research opportunities and success stories. We will regularly update our website with information relevant to recruitment, like the current research focus and infrastructure of the department, the ongoing research activities, upcoming events, alumni information and so forth.

Departmental activities to attract students

The diverse activities specific to attracting students include: connecting school-students with IIT-PAL (IIT Professor Assisted Learning), iGEM (International Genetically Engineered Machines) program, and open-house exhibits. The department also regularly hosts visits of external students and promotes research internships. Through the annual event TRYST, the department engages with students from schools and colleges across the country. Our Institute already has in place multiple lucrative schemes for recruiting students from CFTIs. Efforts would be expanded to reach out to the bright students by visiting NITs, IISERs, etc. and various Institutes with existing MOUs with IITD. DBEB will proactively work towards recruiting motivated students through these outreach programs.

The department plans to leverage the existing, and initiate new partnerships, with industry and other academic institutions (in India and abroad) for training, placement, and joint academic programs. Successful implementation of these efforts will result in an increase in the total number of applicants and enrollment to the DBEB programs.

Plan for Faculty recruitment

Biotechnology today has a far-reaching impact in diverse areas such as: health sciences and technology, diagnostics, food and agriculture, environment, consumer products, etc. DBEB is currently running a total of 4 academic programs in these areas: BTech (annual intake ~ 70), MTech (annual intake ~ 15), MS Research (annual intake ~ 7) and PhD (annual intake ~ 10-20). DBEB envisions that a total faculty strength of ~ 32 will be required to run these academic programs efficiently with an optimum student-teacher ratio (~ 10:1) and to cater to the courses offered for the students from all other departments. Considering the need for building a strong interdisciplinary faculty team, the department has recently identified the following research areas for faculty hiring:

1. Biomanufacturing (Mammalian Cell Technology, Enzyme bioreactors, Bioseparation Engineering, Biomolecular engineering, Bioprocess technology, Metabolic engineering)
2. Environmental Biotechnology (Technologies for bio sustainability, Microbiome research)
3. Computational and Systems biology (Quantitative biology, Synthetic biology)
4. Health Sciences and Technology (Nanobiotechnology, Disease diagnostics and Therapeutics)

To attract faculty, we will be sharing the brochures of the department detailing infrastructures, career opportunities, and academic and research activities with various Institutes of repute. We will be advertising on global media platforms including thematic international conferences, popular journal websites, linkedin, and other networking websites.

There is also a need to appoint experts from the Biotech industry as *Professor of Practice (PoP)* in addition to the regular faculty recruitment. The PoPs can provide industry-academia linkages and can offer courses to train students for meeting the demands of industry and better employability. This will include courses on quality control, regulatory concerns, plant design as per GMP/GLP norms and concepts like QA/QC CFR21, QBD, etc.

Excellence in teaching

DBEB's ambition is to produce individuals with sound fundamental understanding of microscopic scale (molecular biology) to the macroscopic scale (bioprocess engineering)

and scalable implementation of biotechnological solutions. We envision exposing our students to current state-of-the-art knowledge and developing research curiosity and problem-solving ability to undertake high quality research and technology development. DBEB would like them to be sensitized about biosafety, ethical issues in this domain, and emerge as the creators of new knowledge and responsible and contributing citizens to the society.

Educational Program - UG (B.Tech):

The department offers a UG program in biochemical engineering and biotechnology. The current curriculum was revised in 2013 and implemented for the last ten years. In accordance with the NEP policy as an institute wide activity and based on the feedback received from students, alumni and industry experts, we are revising our curriculum to cater to the demands of industry and academia.

As part of the curriculum revision we are improving the BTech program using below three-pronged approach:

1. Updating the teaching content - It is important to identify the relevance of some of the existing courses, redundancy in them, if any, and find out if some of the courses are offered in insufficient depth. It is also important to evaluate the gaps in current curriculum that would be relevant for success in biochemical engineering and biotechnology careers of today and tomorrow. A need for an infusion of newer cutting-edge areas/topics is very important. The department has added several courses relevant for academia and industry.
2. Experiential learning – For effective learning hands-on experience is required. While many of our courses already have significant laboratory components, we would further like to strengthen by adding more relevant equipments in the UG lab. The UG lab is equipped with biometric attendance for 24x7 access to the students. We would also like our UG students to engage in research projects in the department via programs like SURA, 1-2-3-4 IRD scheme, iGEM, and BTech projects.
3. Developing leadership skills – We envision our students to become future leaders of biotechnology. We believe in the overall personality development of the students. For this, we regularly expose them to the current leaders of industry and academia through guest seminars, industry trips, internships, and exchange programs. The department also encourages our students to develop communication and leadership skills via in-house non-academic societies (BETA) and club (iGEM).

Educational Program – PG (MTech, MSR, PhD)

DBEB offers following three PG programs:

1. ***M.Tech****:* The department launched in 2022 a unique 2-year M.Tech and a 3 year M.Tech High Value Assistantship (HVA) program in Biomolecular and Bioprocess Engineering. The goal of these programs is to produce engineering professionals with strong foundations in interdisciplinary areas related to biomanufacturing and biotechnology and enabled to tackle industry-level problems.
2. ***MS-Research:*** DBEB has been running a MS research program with a strong emphasis on independent research. The goal of this program is to generate high quality manpower continuing research in academia and industry.
3. ***Ph.D:*** DBEB offers a multidisciplinary Ph.D. program in Biochemical Engineering and Biotechnology. The goal of the Ph.D. program is to generate independent researchers and prospective leaders for industry and academia, who can solve fundamental as well as applied challenges in the four thematic domains of DBEB.

Dramatic improvements are being reported in pharma batch optimization and manufacturing scalability from bio-manufacturing analytics, analytical technology, and machine learning. Both public and private sector organizations require manpower with knowledge and skills in this area. The likely professional profiles of these students on successful completion of this program would include **future educators, bioprocess engineers, biotechnologists, data analysts, engineering consultants, research managers in PSUs, researchers in R&D labs, and bioentrepreneurs**.

DBEB's goal is to adopt the following strategies to improve the quality of our PG programs:

1. **Pursuit of excellence:** The current PG program starts with year-long foundational coursework. This includes core courses on data analytics, applied mathematics, instrumentation, and biomolecular engineering. The students also get a rich bouquet of elective courses in cutting edge areas such as genomics and proteomics, cancer cell biology, electromicrobiology, bionanotechnology, environmental biotechnology, etc. These courses incorporate the recent developments in research and encourages students to self-learn some of the components. The department is also planning to introduce new courses dedicated to research writing and journal club to promote communication skills and teamwork.
2. **Development of Independent thinking:** All the PG programs have a thesis component, which is one year for MTech, 2 years for MTech HVA, 1.5 years for MSR, and ~ 4 years for the PhD program, to solve a technical or a research problem. The students present a plan of work, where they articulate the current state-of-the-art, problem statement and a clear workflow for execution of the project. The department aims to nurture these students by exposing them to high quality research work via guest seminars delivered by leaders in industry and academia, international exchange and joint programs, international conferences, and workshops. We will encourage the students to write original review articles and/or grant proposals to build independent and critical thinking on their subject area.
3. **Leadership building:** We aim to prepare our graduating PG students as future educators and leaders of biotechnology. DBEB hosts an annual symposium - Biosphere – organized primarily by the departmental PG students where they invite thought leaders of the field for interaction. This provides a unique opportunity for the students to showcase their research, hone their communication and organizational skills and exchange valuable feedback from their peers. We plan to further strengthen the industry exposure for our PG students via trips to biotech industries, internships, and joint projects. We will keep encouraging our students to participate in various competitive schemes and opportunities, such as – GYTI awards, PMRF and (inter)national fellowships.

Excellence in research

The proposed activities in the four thematic research areas of the Department are detailed below:

1. **Biomanufacturing** –
   Advanced Biomanufacturing involves development of processes for using cells as factories and enzymes as catalysts for the generation of valuable products. The use of microbial hosts and biocatalytic processes to produce high-value compounds is extremely

important for the generation of sustainable processes. This represents the most applied aspect of Biotechnology and the department has close linkages to the Biotech industry. The department was founded with a mission to commercialize technologies for the production of bio-ethanol. Biomanufacturing requires a consideration of various aspects including production of compounds of interest, product purification and development of cost effective processes that are scalable. The current focus on technology development of the department focuses on the following areas of biomanufacturing 1) Upstream development focuses both on the discovery as well as the development of new host chassis for production of metabolites and proteins. Coupling the tools of genome engineering with those of metabolic engineering/synthetic biology has proven to be a successful strategy for host development. Leveraging the departmental strengths in microbiology, computational and molecular biology would accelerate this ongoing process. The department needs to develop further expertise in various areas including mammalian protein production systems for the production of therapeutics. 2) Bioprocess development for upstream processing primarily focuses on process optimization based on continuous monitoring of bioprocess parameters and modeling (PAT). The department already has an excellent infrastructure of bioreactors and online and at-line measuring systems like mass spectrometry, near infrared spectroscopy, fluorescence, LCMS, and plans to soon extend this to other spectroscopic methods like Raman spectroscopy etc. 3) Downstream processing primarily focuses on development of separation methodologies for separating biomolecules of interest. Here the department has concentrated mostly on membrane-based technologies for separation of metabolites. The department needs to develop further expertise on other downstream technologies like chromatographic techniques of separation.

2. **Computational biology and Systems Biology** -
Biological systems generate some of the most complex data that poses interesting and challenging problems. Since the last decade there has been a rapid expansion in our ability to measure these data at various scales to better model biology, and to predictably modify it. These data intensive processes therefore extensively deploy computation. This has led to the two disciplines of computational and systems biology. Our long-term vision is enabling systematic engineering of biology, promoting teaching in areas where there is a need for development of tools for engineering biology and helping build an intellectual community that can productively apply large-scale biological technology. In the coming decade we will deploy a two-pronged strategy to tackle biological complexity: Top-Down approach involving data analytics and bioinformatics; and Bottom-Up involving mathematical and computational modelling of biological processes. While we already have quality faculty pursuing these two approaches, there are 3 areas where we need to strengthen further.

   First, to strengthen the basics of computational analysis for biological data we should hire a Biostatistician with deep training in Statistics. Second, to strengthen the application, we must hire in systems bioengineering, particularly synthetic biology with recent successes in literature such as - reprogramming of yeast or other microbes to convert agricultural waste products or switchgrass into biofuels; development of high-precision biological switches. This field can provide new intellectual perspectives on biology. Lastly, to enhance the adoption of AI in research and training, we should hire additional experts who are dedicated to data driven, AI-based approaches in all four thematic areas of the department.

   To train students in above disciplines and approaches we have a state-of-the-art computation lab with 35 Linux based high-end workstations dedicated for the use of students at the department. We would like to expand this to more than 50 workstations in

the near future. Besides this, our departmental students can also access the central Supercomputer or High-performance Computing (HPC) facility for specific projects, which is constantly upgrading with the latest generation of processors.

To train students, we also have advanced courses in the relevant topics. In particular, we have 1 core UG course of Bioinformatics, 1 PG core courses namely Applied Mathematics, and Data Analytics and 4 elective courses namely Genomics and Proteomics, Protein Engineering, Biophysics, and Mathematical Modelling of Microbial Systems, available to all students. We are continuously revising these courses with the latest innovations such as advances in AI based protein folding using AlphaFold2, recent advances in Genome Sequencing through example of Covid-19, or recent successes in understanding microbial growth through minimal mathematical models. In the coming decade we would also like to introduce advanced quantitative courses in, for instance, biophysical data analysis, the use of AI in drug discovery and disease diagnostics, synthetic biology, and so forth.

3. **Environmental Biotechnology** -

Environmental Biotechnology is an interdisciplinary field at the forefront of ecological innovation. Our department's commitment to this area is mirrored in our diverse research pursuits that aim to understand and apply microorganisms to address pressing global challenges such as clean air, water and soil, sustainability. The current research strengths include Water and Wastewater Treatment, Bioremediation of Emerging Pollutants and Antibiotic Resistance, Biosensors for environmental monitoring, Plant/Fabric-Microbiome Interactions, Electromicrobiology, Petroleum biotechnology, and basic microbial research. In future, we wish to deepen our ongoing areas of research, in addition to undertaking the following pursuits:

- AI/ML Collaboration: Recognising the transformative potential of AI and ML, we aim to enhance collaborations with experts in these tools as applied to environmental contexts, particularly for predictive modeling and optimisation in biotechnology.

- Biostatistician Recruitment: The addition of a biostatistician to our department will not only bolster our ongoing research but also provide an enriching environment for their development, enhancing data-driven approaches to Environmental Biotechnology.

- Microalgae systems: We are interested in recruiting an expert in microalgae systems with applications in the area of biotechnology.

<u>Future Facilities Development</u>

- Pyrolysis GC-MS: To expand our capabilities in contaminant analysis, we wish to develop a Pyrolysis GC-MS facility, filling a critical gap in regional infrastructure.

- Flow Cytometer: The acquisition of a flow cytometer will be instrumental for advanced cell analysis, supporting our microbiological and biotechnological research.

- Controlled Growth Chambers: To bolster our research in plant-microbe interactions and environmental anaerobic microbiology, we are interested in establishing

controlled-growth chambers including walk-in plant growth chambers and stand-alone anaerobic chambers. Such controlled environments will prove the necessary conditions for diverse experiments complementary to our established research programme.

This vision document encapsulates our Department's commitment to pioneering research in Environmental Biotechnology, aiming to foster sustainable solutions at various scales.

4. **Health Sciences and Technology** -

Currently DBEB has expertise in bionanotechnology based diagnostics and therapeutics; Imaging and AI assisted microscopy automation; RNA biology for personalized therapeutics and molecular diagnostics; Biofluid characterization and lab-on-a-chip development and next-generation sequencing for diagnostics and personalized therapeutics; functional genomics and single cell transcriptomics. We would like to pursue deep science based health technology solutions in disease diagnostics and therapeutics. In coordination with existing strength in the computational biology team, we plan to expand our capabilities in personalized diagnostics and therapeutics. Under therapeutics, we plan to focus on different drug delivery methods, identification of molecular targets for personalised therapeutics. The department envisions to further strengthen existing areas and build on to new technology solutions in the following area: Stem cell/Cell Therapeutics; NGS technology development; Genome editing; Anti-microbial resistance and Point of care diagnostics; Spatial transcriptomics and Digital Pathology.

We plan to set up the following facilities in the department (as Institute facility) to strengthen Health science technology: Indian cancer cell bank & characterization facility and Next generation Sequencing facility. The proposed facility aims to impart a high quantum thrust to basic, clinical and translational research in disease biology by providing research opportunities in high priority areas by co-integrating genomics, bioinformatics and drug designing using highly advanced platforms and technologies in this facility. The development of this advanced facility would help IIT to seize the opportunity and lead in the field of cancer research and personalized medicine which are two of the most prominent sectors of Healthcare coming at par with the world’s best institutions. This will be a novel step taking IIT Delhi to higher levels in terms of teaching, research and entrepreneurship.

We plan to offer the following elective courses in future: RNA therapeutics; One Health for AMR; Molecular Diagnostics. We also plan to offer a one-year certificate course on molecular diagnostics to cater to the industry and hospital manpower upgradation.

Excellence in innovation

1. ***Bioentrepreneurship Program****:* The department is currently hosting a course on Bioentrepreneurship, where the students are expected to build a complete business plan including development of deep-tech solutions. The department would like to offer a 12-month fellowship beyond their UG or PG program to enable them to get started in their journey as entrepreneurs. In this program, the students will be provided a dedicated bio-maker space in the department with appropriate infrastructure.
2. ***Technology Transfer and Commercialization:*** Several faculty members have industrially relevant projects and have many intellectual properties (IPs). We plan to strengthen the technology transfer and commercialization by facilitating periodic interactions with industries and publishing booklets on technologies available for

licensing.

3. ***Strategic links with industry:*** DBEB plans to strengthen the department-industry connect through the following strategies –
    - ***a.*** Joint-PhD program with industry
    - ***b.*** Visiting professors and Professors of Practice
    - c. Hiring a Department-Industry Liaison Officer to develop active partnership with the local biotech industry and linking students/faculty to industry for training, research, and consultancy.
    - d. Organizing programs, like Industry Day where we invite industry personnel to know their expectations and showcase our strength.
    - ***e.*** Strengthen existing seminar programs by inviting leaders in industry.

Excellence in leadership

The geographical location of Delhi and it being the national capital provides an ideal opportunity for us to become a nodal point for exchange of knowledge and biotechnological solutions. We envision to promote existing strength and emerge as a leading contributor to the solutions to global challenges. We aim to achieve our goals through partnerships with local and national institutes e.g., AIIMS, NII, JNU, IGIB, ICGEB, DU, etc. Over the years, DBEB has established extensive international partnerships. We will continue to strengthen our international footprint and extend our impact over the next decade.

Annexure 2:

Dear Prof. Ambuj

Please find below the updated DBEB surrender and retention details:

Current DBEB Space=
37678 (as per the Dashboard u shared)
36751 sq ft (as per the shared data)

DBEB Surrender details
Old Surrender Space- 26381 sqft
Updated Surrender Space – 24906 sq ft

Old Rentention Space-10370 sq ft
Updated Retention Space- 10745 sq ft

The reason for the changes and both old and updated data are mentioned below.

Regards

Ritu
(HoD, DBEB)

DBEB Surrender Details (Old Data)

DBEB
Surrender

S No.	Dept.	Room No.	Category	Space (in sq. ft)
1	DBEB	I-102	Store Room	160
2	DBEB	I-103-105	Bioprocess Lab	2820
3	DBEB	I-106	Electronics Workshop	180
4	DBEB	I-121	TR Sreekrishnan Lab	1025
5	DBEB	I-124	Sunil Nath office	200
6	DBEB	I-125	Cold Room	90
7	DBEB	I-126	Ishaan Gupta office	200
8	DBEB	I-127	Lucinda E Doyle Lab	640
9	DBEB	I-128	Ziauddin Ahammad Lab	320
10	DBEB	I-133	Lounge	125
11	DBEB	I-134	Ritu Kulshreshtha office	200
12	DBEB	I-135	Ziauddin Ahammad office	180
13	DBEB	I-136	TR Sreekrishnan office	150
14	DBEB	I-137	Ashish Misra office	126
15	DBEB	I-138	Kumari Priti Sinha office	170
16	DBEB	I-139	Preeti Srivastava office	170
17	DBEB	I-140-141	Shilpi Sharma office	160
18	DBEB	I-142-143	Office vacated by Saroj Mishra	200
19	DBEB	I-144-145	Lucinda E Doyle Office	200
20	DBEB	I-203	Prashant Mishra Lab	1040
21	DBEB	I-204	Prashant Mishra Lab	180
22	DBEB	I-205	KJ Mukherjee Lab	1350

23	DBEB	I-206A	Shilpi Sharma Lab	768
24	DBEB	I-206B	Ashish Misra Lab	832
25	DBEB	I-207	Radioactivity Room	240
26	DBEB	I-208	Dark Room	96
27	DBEB	I-221	Library / Documentation Unit	416
28	DBEB	I-222-223	Seminar Room	992
29	DBEB	I-224	Departmental Office	512
30	DBEB		LOTUS Project Lab (in front of	860
31	DBEB	I-225	Pantry	30
32	DBEB	I-226	Stores	290
33	DBEB	I-228	D. Sundar office	120
34	DBEB	I-229	Two offices - KJ Mukherjee and	320
35	DBEB	I-230	Committee Room	510
36	DBEB	I-231	New Computation Lab	600
37	DBEB	I-232	Sundar Lab	380
38	DBEB	I-232A	Labs of Ishaan Gupta and Kumari	1760
39	DBEB	I-233	Central Instrumentation Facility	2160
40	DBEB	I-301	4 C Storage Room	125
41	DBEB	I-321-324	Bioscience Lab	930
42	DBEB	I-325	Vacant	96
43	DBEB	I-326	Sunil Nath Store Room	96
44	DBEB	I-327-328	Ravikrishnan Elangovan office	240
45	DBEB	I-331-332	Prashant Mishra office	190
46	DBEB	I-329	Prashant Mishra Lab	960
47	DBEB	I-333	Atul Narang office	180
48	DBEB	I-335	Ravikrishnan Elangovan Lab	480
49	DBEB	I-337	Ravikrishnan Elangovan Lab	384
50	DBEB		Pump House (behind Pilot Plant)	240
51	DBEB		MCC Room (behind Pilot Plant)	500
52	DBEB		Compressor Room (behind Pilot	375
53	DBEB		Old Store under II-LT3	378
54	DBEB		Compressor Room (behind	135
55	DBEB	II-7	TR Sreekrishnan Lab	300
			TOTAL	**26381**

DBEB Surrender Details (Updated as on 17 April, 2024)

DBEB
Surrender

S No.	Dept.	Room No.	Category	Space (in sq. ft)
1	DBEB	I-102	Store Room	160
2	DBEB	I-103-105	Bioprocess Lab	2820
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18	DBEB	I-142-143	Anjan Roy office	200
19	DBEB	I-144-145	Lucinda E Doyle Office	200

20	DBEB	I-203	Prashant Mishra Lab	1040
21	DBEB	I-204	Prashant Mishra Lab	180
22	DBEB	I-205	KJ Mukherjee Lab	1350
23	DBEB	I-206A	Shilpi Sharma Lab	768
24	DBEB	I-206B	Ashish Misra Lab	832
~~25~~	~~DBEB~~	~~I-207~~	~~Radioactivity Room~~	~~240~~
26	DBEB	I-208	Dark Room	96
27	DBEB	I-221	Library / Documentation Unit	416
28	DBEB	I-222-223	Seminar Room	992
29	DBEB	I-224	Departmental Office	512
~~30~~	~~DBEB~~		~~LOTUS Project Lab (in front of Dept Office)~~	~~860~~
31	DBEB	I-225	Pantry	30
32	DBEB	I-226	Stores	290
33	DBEB	I-228	D. Sundar office	120
34	DBEB	I-229	Two offices - KJ Mukherjee and	320
35	DBEB	I-230	Committee Room	510
36	DBEB	I-231	New Computation Lab	600
37	DBEB	I-232	Sundar Lab	380
38	DBEB	I-232A	Labs of Ishaan Gupta and Kumari	1760
39	DBEB	I-233	Central Instrumentation Facility	2160
40	DBEB	I-301	4 C Storage Room	125
41	DBEB	I-321-324	Bioscience Lab	930
42	DBEB	I-325	Amit Das office	96
43	DBEB	I-326	Sunil Nath Store Room	96
44	DBEB	I-327-328	Ravikrishnan Elangovan office	240
45	DBEB	I-331-332	Prashant Mishra office	190
46	DBEB	I-329	Prashant Mishra Lab	960
47	DBEB	I-333	Atul Narang office	180

48	DBEB	I-335	Ravikrishnan Elangovan Lab	480
49	DBEB	I-337	Ravikrishnan Elangovan Lab	384
50	DBEB		Pump House (behind Pilot Plant)	240
51	DBEB		MCC Room (behind Pilot Plant)	500
~~52~~	~~DBEB~~		~~Compressor Room (behind Pilot~~	~~375~~
53	DBEB		Old Store under II-LT3	378
54	DBEB		Compressor Room (behind Process Lab)	135
55	DBEB	II-7	TR Sreekrishnan Lab	300
			TOTAL	**24406**

=26381 (Original Space) -375 (Compressor) -860 (LOTUS)-240 (Radioactivity Room)= 24906 sq ft

Plz note-

- The Compressor Room will be retained by DBEB to run the UG lab and thus need to be deleted from the Surrender List. The power supply to compressor room must be shifted from MCC room to the Compressor Room
- Please note that the MCC room provides power supply to the Compressor room which is required for smooth functioning of the UG lab. We are surrendering the MCC room with an understanding that the Power supply to the Compressor room is shifted to the Compressor Room.
- LOTUS lab is part of LOTUS project activity and thus does not count towards DBEB space. It needs to be deleted from the Surrender List
- The Radioactivity Room (I-207), 240 sqft- The room is maintained by DBEB and one of our DBEB Staff has got training at BARC and certification to work with radioactivity. However, we suggest that this facility may be open to all IITD users and is notified as Institute CRF Facility and not counted in DBEB space.

Retention of DBEB Space in Block-I (old data)

DBEB Retention				
	Room No.	**Purpose/Justification**	**Category**	**Space (in sq. ft)**
1	I-30	Since this is the current teaching UG lab and was built and furnished recently.	UG Lab	3550
2	I-27	These research labs to be converted into dedicated teaching labs.	Plant Cell Cultivation 1	550
3	I-31		Animal Cell Culture	460
4	I-32, I-33		Cancer Biology	575
5	I-24	To merge them with existing UG lab in I-30 to increase the lab capacity.	Plant Cell Cultivation 2	390
6	I-25		Pharmaceutical Biotech	360
7	I-26		RNA I	360
8	I-130	To merge them and develop a new M.Tech lab.	RNA II	1080
9	I-131		Pilot Plant	2670
10	I-132		Computation Lab 1	375
				10370

Retention of DBEB Space in Block-I (Updated as on 17 April, 2024)

DBEB Retention				
S No.	**Room No.**	**Purpose/Justification**	**Category**	**Space (in sq. ft)**
1	**I-24**	To merge them with existing UG lab in I-30 to increase the lab capacity	Lab	390
2	**I-25**		KPS Lab	360
3	**I-26**		RNA Lab (PS)	360
4	**I-27**		Plant Cell Culture Lab	550
5	**I-30 I-31**	**Current UG Lab**	UG Lab	3550
7	**I-32**	These research labs to be converted into dedicated teaching labs	Mammalian Cell Culture (RK Lab)	460
8	**I-33**		Cancer Biology Lab (RK Lab)	575
9	I-130	To merge them and develop a new M.Tech lab.	RNA II (AN)	1080
10	I-131		Pilot Plant	2670
11	I-132		Computation Lab 1	375
12	I-36 Compressor Room (behind UG lab)	Required for the UG Lab	Compressor Room (behind Pilot Plant)	375
				10745

Notes:

1. We would like to retain I-36 room (Compressor Room) essential for smooth running of the UG lab.

Annexure 3:

Final MTP 24-25 allotment list

Sl	Student Name	Faculty Name
1	Ankita Chowdhury	Prof. Ritu Kulshreshtha
2	Divyansh Khare	Prof. Preeti Srivastava
3	Heba Saba	Prof. Prashant Mishra
4	Kavya S	Prof. Amit Das
5	Paras Chaudhary	Prof. Lucinda E. Doyle
6	Renesa Dasgupta	Prof. Ravikrishnan Elangovan
7	Rohit Bar	Prof. Anjan Roy
8	Sagar Singh Gwal	Prof. Ishaan Gupta
9	Saurav Bonik	Prof. Ashish Misra
10	Shahid Mumtaz	Prof. Shaikh Z. Ahammad
11	Shreya Bhattacharya	Prof. Shilpi Sharma
12	Shrish Tiwari	Prof. Priti Sinha
14	Tathagat Sah	Prof. K J Mukherjee
15	Krishna Upadhyay	Prof. Atul Narang