



FRESHER'S HANDBOOK

2020-2021

DEPARTMENT OF MATHEMATICS



Indian Institute of Technology
Bombay, Powai 400076

Disclaimer

Though the ISCP (Institute Student Companion Program) has taken care of while compiling the handbook, neither the council nor the Institute can be held responsible for errors/inadequacies that may inadvertently creep in. This handbook cannot be used as a basis for making a claim on facilities/concessions/interpretation of rules/statues or the like. If there is some critical information to which the reader of this handbook refers, it is with his or her own responsibility that it is put to use, with cross verification if need be.

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Welcome note from ISCP

Dear New Entrants,

These are tough times, but you are not alone.

We welcome you to one of the most prestigious institutes in the nation.

Congratulations on having achieved this incredible feat. You are about to become part of a culture that will leave its traces within you for a long, long time, even if it begins 'untraditionally.' You will be the ones witnessing the first term to happen entirely online in the history of IIT-Bombay. It might feel overwhelming, and for all the right reasons, we must say. There will be several things you might be worried about, from coping up with the academics in online mode to missing out on things; however, as we said, "You are not alone."

Institute Student Companion Programme (ISCP) is a student body with the primary objective of building a relationship of trust and comfort between the final year students and the incoming students of the PG programmes. We are here to help you in getting familiar with the ways of IIT-B, which is even more critical in these times. You will become a part of a culture where people want to perfect their craft and thus work day in and day out at it. The scope of these is not limited just to academics. Various online events are and will be organized by the cultural, technical, and sports clubs in IITB, like Code in Quarantine, Fitness challenges, Dance Challenges, etc. Managing these along with online lectures might seem daunting at first, and hence, to help you with a world of problems including these, we assign you a Student Companion.

The Student Companions are self-motivated volunteers who will genuinely help you in low and high tides as an act of giving back what they received from the programme. You can look up to the team for any form of support, any information before venturing out into an unknown domain, be it academics or extracurricular activities. You can reach out to us for any issue regarding the curriculum, facilities provided, your physical, social or mental health, and last but certainly not the least, reach out to have a chat with us because that is what we are for, for you.

The COVID -19 pandemic has affected all of us. For now, Health concerns prevent your arrival in our beautiful lush-green IIT-B campus, it also prevents your participation in hostel activities, sports, cultural activities. There are many things here at IIT-B waiting for you, but the most important thing is the campus, and the buildings do not define IIT-B. It's you.

You set the culture, the activities, you represent IIT-B to the world, and you make IIT-B what IIT-B is. So, knowing that time flies at IITB, we strongly suggest participating in things that happen online other than attending lectures, make memories, reach out to us for any queries, and relax with the comfort of your home. At least till we get an opportunity to welcome you into the campus, let's be safe, let's be optimistic and let's keep our learning spirits high.

Looking forward to getting to know you. Giving out some motivation for these difficult times, we end with a quote by Albus Dumbledore: "Happiness can be found, even in the darkest of times, if one only remembers to turn on the light." Stay Safe!

Overall Coordinators,
Institute Student Companion Programme (2020-21)
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Overall Coordinators

Institute Student Companion Programme 2020-21

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Welcome note from PG Academic Council

Dear Freshmen,

Congratulations to all freshmen for making it to one of the premier institutes of the country. Despite the stiff competition, you all managed to come out with flying colours. So on behalf of the PG students of IIT Bombay it is my honour to welcome you all here.

So now all of you are a part of IIT Bombay PG community or “PG JUNTA” as we call them. The institute has a wide range of facilities and services to offer to all its students. This will not only ensure a fruitful educational experience but also promote overall skill development. In the institute there are several student run bodies, that focus on development of skills, sports and extracurricular activities such as music, dance, drama etc. Along with academics we urge you all to explore and make the most of the excellent facilities that the institute has to offer.

As the Institute Master’s Representative, my entire team and I aim to address your grievances and help you to the best of our abilities. This time since the first semester for you all is going to be online, you might have a lot of queries in your mind. Please feel free to contact us any time. Our council PGAC is one that is for the PG students, of the PG students and most importantly by the PG students. So whenever you face a problem, we are always there to help you out. Supporting the students in their academic endeavour is also our foremost priority and we will try to improve the IITB experience in all the ways we can. On this note, I once again welcome you all to IIT Bombay, hoping to welcome you all back to the campus as soon as the situation gets better, and wishing you every success in your future endeavours.

Institute Masters Representative(2020-2021)

Post Graduate Academic Council

Sohini Dasgupta

imr@iitb.ac.in

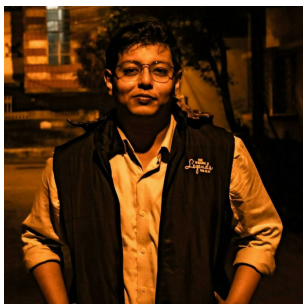


Institute Secretary of Academic Affairs

Sohini Dasgupta

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Academic Unit Representative for Academic Affairs (AURAA)

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Mathematics ISCP Team

Department Coordinator



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Student Companion

Mathematics



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About Department

History:

The Department of Mathematics had its humble beginnings in 1958 from the premises of SASMIRA (Silk and Arts Silk Mills Research Association) Building in Worli, Mumbai. The faculty strength of the Department of Mathematics had already grown to 15 in 1960 and it was further increased to 18 in 1962. The Department was first housed on the top floor of the present Main Building. It was subsequently moved to the TCS Building (the present day Building of Estate Office) along with some other Departments. The Department moved to the building where it is presently housed in the year 1966. The Senate of IIT Bombay gave its approval for the very first M.Sc.(Mathematics) programme on 18 August 1967, and the programme started in July 1968. This M.Sc. (Mathematics) programme continued (with minor modifications from time to time) till 1976-1977. The first time such a programme appeared in the Courses of Study Bulletin of the Institute seems to be in 1975-76. In the academic year 1977-78, a new M.Sc. programme called 'M.Sc. in Mathematics with Specialization in Computer Science' was introduced. It coexisted with the earlier M.Sc. (Mathematics) programme.

Till the academic year 2003-2004, the department used to conduct its own entrance test for admission to its M.Sc. programmes. Since the academic year 2004-05, the admission is through a national examination called JAM (Joint Admission Test for M.Sc.) which is conducted jointly by all the seven IITs.

Vision:

Major goal of the department is to be among the best mathematics departments in the country and to establish an international reputation as a centre for research and teaching in mathematics. Since its establishment, the Department of Mathematics has developed gradually and advanced in various directions and is currently one of the largest Mathematics departments of the country. Research goals aim to create an environment that supports exhaustive and unprecedented research. Teaching goals work towards building interdisciplinary programmes with other departments within IIT Bombay. They will also help to groom a well trained student as scientific manpower for quality national as well as international programmes. The research pursued in the Department of Mathematics includes a quite wide spectrum of interests in both mathematics and statistics. Major research areas include Algebra, Analysis, Combinatorics, Number Theory, Probability, Statistics and many others.

Faculty:

We are proud to have among us distinguished faculty members, as a part of the department. They are responsible for shaping the department to what it is today and are definitely the pillars that keep us standing. They are incredibly kind and generous, and interaction with them is always joyful and motivational.



Prof: K.SureshKumar

Head of the department

Email: head.math@iitb.ac.in

Ganit mail: suresh@math.iitb.ac.in

Department Achievements:

The Department of Mathematics has a number of awards to encourage and highlight academic achievement amongst its students.

1. **Excellence in PhD. Thesis award** - This award is given annually to a PhD student who has defended her/his thesis in the two academic years prior to the convocation in which the award is conferred. The award recognizes the strength of the student's Phd thesis.

The awardee for 2018 is Dr. Kuldeep K. Kataria

2. **Prof. Prabhulal Bhatnagar Memorial Prize** - This award is for PhD students in the areas of Fluid Mechanics and Applied Mathematics who have defended her/his thesis in the two academic years prior to the convocation in which the award is conferred. The award recognizes the strength of the students' Phd theses.

The awardees for 2018 are Dr. Sudeep Kundu and Dr. Nidhin TJ.

3. **Prof. M N Gopalan Prize** - This award is for outstanding performances of M.Sc. student in the Applied Statistics and Informatics programme.

The awardee for 2018 is Rohit Kumar (Batch of 2016)

4. **Mrs. Rama Mathur Memorial Prize** - This award is for securing the highest CPI among all students in a batch of the M.Sc. Mathematics programme.

The awardees for 2018 are Garima Thareja (Batch of 2017) and Sachin Garg (Batch of 2016).

5. **Prof. P V Sukhatme Memorial Prize** - This award is conferred upon the top two M.Sc. students (in terms of CPI) in the graduating batch of the Mathematics and Applied Statistics and Informatics programmes.

The awardees for 2018 are:

(a) Mathematics: Garima Thareja and Rati Ludhani

(b) Applied Statistics and Informatics: Prasanjit Dubey and Shravana Kumar Yadav

Institute Academic prize has been awarded to Prasanjit Dubey and Arkaprava Roy.

Mathematics Association

Faculty



President of Mathematics Association

Prof. K. Suresh Kumar

Email: suresh@math.iitb.ac.in

Office Address : 106-C Department of Mathematics, IITB, Mumbai 400076



Association Secretary

Prof. Preeti Raman

Email: preeti@math.iitb.ac.in

Office Address : 201-E Department of Mathematics, IITB, Mumbai 400076



Association Treasurer

Prof. Sudarshan Gurjar

Email: sgurjar@math.iitb.ac.in

Office Address : 104-F Department of Mathematics, IITB, Mumbai 400076

Students



General Secretary

Chirag P Raju

Email: chirag.p.raju@gmail.com

Mobile No: +91-9019245503

WhatsApp No: 8880888400

Work description: Ensure that the whole council works properly. Make sure that in each educational, sports and cultural event a maximum number of students takes part from the department. Coordinates with council members to execute department activities smoothly.



Alumni Secretary

Bharat Kumar

Email: bharkumargoyal2@gmail.com

Mobile: +91-8005839302

WhatsApp No: 9694166898

Work description: Responsible for making and preserving the database of alumni and also organising department alumni meet, core talks and buddy talks.



UG Representative

Ayushmaan Dev Verma

Email: ayushdv123@gmail.com

Mobile: +91-9967006285

WhatsApp No: 9967006285

Work description: Represent UG students in the Department Council and look after their interests and issues, coordinate with the council to keep the UG students aware of all programs, events and important decisions of the council and assist the council with all matters including but not limited to those regarding UG students.



Assistant Treasurer

Akshi Bansal

Email: akshibansal85@gmail.com

Mobile: +91-9560570465

WhatsApp No: 9560570465

Work description: Assistant Treasurer is responsible for management of the department's treasury activities & guarantees the financial transactions, policies, procedures that fulfill the department's goals and requirements. Documents all bank transactions and maintains track of all activities of bank account data.



Web and Design Secretary

Rishav Chatterjee

Email: rishav98in@gmail.com

Mobile: +91-8013093823

WhatsApp No: 8013093823

Work description: Responsible for maintaining mathematics association webpage and designing creative posters for the events organized by association.



Research Scholar Representative

Priyabrata Mandal

Email: priyabrata@math.iitb.ac.in

Mobile: +91-8013935655

WhatsApp No: 8013935655

Work Description: Responsible for handling the problems of research scholars and also their active participation in all academic events. Also I'll try my best to maintain the bridge between MSc students and research scholars.



Department Placement Coordinator (ASI)

Vinay Kumar

Email: vinaymavi40@gmail.com

Mobile: +91-8826675020

WhatsApp No: 8826675020

Work Description: Responsible to act as facilitator between the Mathematics department and the placement to sort out the placement problems faced by the students. Second role would be to prepare the students for Coding, Aptitude tests, GD and interviews. Targeting the dream companies of the students and helping them for the same with the help of Alumni secy. To ensure that Maximum Number of Companies do open for our department.



**Department Placement Coordinator
(Mathematics)**

Dhruv Arora

Email: dhruvarora0716@gmail.com

Mobile: +91-9205088385

WhatsApp No: 9205088385

Work Description: Responsible for handling the placements of Mathematics students by bridging the gap between the department and the Placement Office. Ensuring that the students are prepared for the placement procedure by conducting sessions on statistics, coding and other relevant topics.



**Class Representative (CR) of MSc 2nd year
(Mathematics)**

Pulkit Khandelwal

Email: khandelwalp257@gmail.com

Mobile: +91-9549451159

WhatsApp No: 9549451159



**Class Representative (CR) of MSc 2nd year
(ASI)**

Lovish Kandoi

Email: lovishkandoi63@gmail.com

Mobile: +91- 8561030902

WhatsApp No: 8561030902

Work Description: Act as a prime official channel of communication between teacher and rest of the class, for all monitoring formalities.

Student Wellness Centre

After securing admission at the Institute and starting your stay here, you may feel that a lot of parameters around you are different. You would have more responsibilities to handle at the hostel and at the academic level. There are a few issues that almost everyone in the Institute faces initially like academic concerns, social (family and peer) pressure etc, leading to feelings of loneliness, low confidence, anxiety, stress, anger and sadness, to name a few.

It is important to understand that students often lose their focus and give in to these pressures. If not attended to at the right time, this could lead to poor performance -- both academically and personally.

To help you refrain from losing focus and being unhappy, we as Counsellors encourage you to approach us for any problem that you are facing- be it academic, emotional, social or financial- without hesitation.

Counselling provides an opportunity for individuals to learn to make better choices, improve interpersonal skills, develop confidence and increase educational effectiveness. In a one-on-one meeting with a counsellor, students are helped to explore and express feelings, examine beliefs and ways of thinking about their present situation, reflect on patterns of behavior and work toward making healthier and happier changes.

Typical concerns of students who seek counselling are :

- Transition and change
- Uncertainty about values and goals
- Academic pressure
- Dealing with new academic patterns
- Personal relationships with the special one and with friends
- Family concerns
- Stress, depression and anxiety
- Lack of motivation, concentration difficulties

Find more details on the website:

<http://www.iitb.ac.in/swc/en/about-student-wellness-centre>

Gender Cell

IIT Bombay's Women's Cell has been in existence since 2002. With the enactment of the Institute's policy on sexual harassment, the Cell has been renamed the Gender Cell (GC). In recognition of the Institute's belief that its employees and students have a right to be treated with dignity and respect, the Cell works proactively towards developing a safe and secure environment for employees, and to ensure that all students may gain their education without fear of prejudice, gender bias, hostility or sexual harassment. The IIT Bombay Gender Cell (GC) inquires into complaints of sexual harassment through its Internal Complaints Committee (GC-ICC). The GC and GC-ICC strive to work towards an egalitarian environment where men and women are afforded equitable treatment and equality of opportunity conducive to their professional growth.

Find more details on the website:

<http://www.gendercell.iitb.ac.in/en/about-womenscell>

PG Cult

Students of the Mathematics department have always excelled in cultural activities as well as academics. For enthusiastic PG students, there are a variety of events in PG Cult from meme making competition to quilling, speaking and literary arts, photography and fine arts events to more popular events like dance, singing, drama and film making.

We participate as a department together. And apart from PG Cult, we also have various institute level cultural events throughout the year. This year we had cultural night at the department level in which both faculty members as well as students participated and performed.

So buckle up, ace all your courses and also have fun by exploring the amazing opportunities we have here in IIT BOMBAY.

List of achievements in PG Cult 2019-20:

- ★ Bagged first position in essay writing competition.
- ★ Secured Second position in solo dance
- ★ Secure first position in Best Short Film
- ★ Secure first position in Jugalbandi
- ★ Secure third position in Group Drama
- ★ Secured third Position in Band Competition
- ★ Taniya Sarkar won Best actress Short film
- ★ And many more individuals.



PG Sports

IIT Bombay is a place where sports and academics both are equivalent and that's why, we are **inter IIT winners**. PG sports produces a bunch of Inter IIT players every year and the numbers are increasing every year .PG sports is the event to witness the confluence of sports enthusiasts and celebrate excellence and team spirit.

PG sports conduct a department wise general championship (GC) every year among the PG students in almost every game and at the end of the every GC event,PG sports announces the gem of the GC on the basis of performance of students and a point based system which determine the standing of every department in thePG GC and at the end of the year it determines the winner of PG-GC .DepartmentSports secretary acts as the representative of department in PG sports.

List of achievements in PG Sports 2019-20

- ★ Bagged overall second position as a department
- ★ Bagged Gold medal in Squash Girls GC.
- ★ Bagged bronze medal in Squash Boys GC.
- ★ Bagged silver medal in Girls Carrom GC.
- ★ Bagged Silver Medal in Boys Table Tennis GC.
- ★ Bagged Silver in Chess Boys GC.



Placements

IIT Bombay has proved to be the most preferred destination for aspiring technologists from across the country. IIT Bombay has produced many illustrious alumni, whose contribution at national and international level has been significant. The alumni of IIT Bombay are often sought after for covered positions in the realm of business, academics and research. IIT Bombay consistently maintains an exemplary recruitment record. Our graduates and Post graduates have been selected by leading national and multinational corporations and research institutes.

We have two Internship coordinators from the first year and two department placement coordinators from second year who represent Mathematics department in Placement Cell. Also, this year we have one Company coordinators from our department in the placement cell.

We have placement in the field of analytics, consulting and academics. Many of our students went to prestigious institutes in India for doing Ph.D.

Following is the list of placed students in year 2019-20:

Names	Company
Priyanka Aggarwal	SAP Labs
Ayushi Vishwakarma	Accenture digital
Yogesh Kumar	Accenture digital
Arjun V	ANZ
Vibhor Sarawagi	ANZ
Aman Garg	ANZ
Hitesh Yadav	ANZ

Ankan Das	Accenture Operations
Sumedha Ghosh	Accenture Operations
Sujander Rana	Accenture Operations
Chetan Singhal	Accenture Operations
Rahul Gautam	Citibank
Dhruba Jyoti Guha	Citibank
Pratibha	Citibank
Sree Lekshmy	World Wide technology
Dharmendra Kumar	Societe Generale
Kunal Bharti	Societe Generale
Mona Bhararia	HSBC
Vivek Kumar	KPMG
Sonali Singh	Bharti Axa
Debanjan Mondal	SOLV
Arindam Sarkar	Meru cabs
Abhishek Khoiwal	FCS Software Solutions Ltd
Laveena Garg	Archeron group
Jitesh Sharma	WNS Global Services Ltd
Sudhakar Kumar	RBL Bank
Mohammad Harith	Dolat Capital Ltd
Ananya Roy Pradhan	VnF ideas

ASYMPTOPIA

2 Day fest, Starting with a batch photo shoot on the first day and lots of games on the second day.

Rooms were filled with mathematical puzzles and games, and the photo booth. Captured memories in a photograph! "And time was Like forever frozen .."



Important Websites

1. IITB Internet Access:

- Link: <https://internet.iitb.ac.in/>
- Purpose:

Your roll number will be provided to you during institute orientation with a welcome kit. You should remember your roll number. You will get a LDAP Id which you can use to browse the internet.

2. Application Software Centre(ASC):

- Link: <https://asc.iitb.ac.in/>
- Purpose :

This website is the main interactive website for a student for all of his/her administrative requirements. From paying your fees, to checking your grades, all can be done on this website. The website also has links to all other websites of the institute. Some of the most important facilities offered by this website are given follows:

- Payment of Fees
- Register and deregister from courses
- Checking previous year's grading statistics for any subject
- Brief contents of all subjects being offered
- Own personal details
- Checking of your own academic performance

3. Moodle:

- Link: <https://moodle.iitb.ac.in/>
- Purpose:

This website provides academic interaction between students and faculty for all courses enrolled by students. You can download study material/books/notes uploaded by a professor. The website also offers an interaction platform where you can communicate with the Professor and other students in the same course on any subject related matter.

4. Central Library:

- Link: <https://www.library.iitb.ac.in/>
- Purpose:

The website for the central library offers a search engine for books available in the library. You can also check the number of books issued at any given time, renew them and “queue” up for any book already drawn by some other individual.

5. Webmail:

- Link: https://gpo.iitb.ac.in/src/login.php?secure_login=yes
- Purpose:

This is your personalized email in IIT Bombay. Every student gets one when he/she enrolls. Along with normal mail, here you also get alerts for registration of various events, fee payment and any broadcast on moodle among others. The general Email id looks like [your roll number]@iitb.ac.in.

6. Ganit Mail:

- Link: <https://math.iitb.ac.in/webmail/src/login.php>
- Purpose:

This will be your other mail which will update you about the events happening in the Mathematics department. You can use it to contact the professors in the Mathematics department or for any official work in the department. General Ganit id will look like [userid]@math.iitb.ac.in.

7. Mathematics department

- Link: <https://math.iitb.ac.in/>
- Purpose:

This is our department’s website. It has the contact details of all faculty members, staff and students of our department. It also displays the academic research areas in our department.

CPI system:

Letter Grade	Grade Point	Letter Grade	Grade Point
AP	10	DD*	4
AA	10	FR**	Fail & Repeat
AB	9	DX***	Short Attendance
BB	8	II #	Incomplete
BC	7	DR	Dropped
CC	6	AU##	Audit
CD	5		

Some Important tips:

- Always carry your ID-card.
- Download the M-indicator App on your phone to find your way around Mumbai. It provides timings of local trains and buses, along with auto and taxi fares.
- The nearest station to the IITB campus is **Kanjurmarg** and it is located on the central line of the local train network.
- Download the **InstiMap** app on your phone to find your way around campus
- Join facebook groups like Freshmen Group, IITB FoodRecommendations [while you get adjusted to mess food], Buy and Sell IITB[for all purchases/sales inside IITB], Hostel Groups.
- Join facebook group of our department

Events@maths-IITB

[link:<https://www.facebook.com/groups/139453336193227/>] and like facebook page **IITB Math**

Diaries-Confessions[link: <https://www.facebook.com/iitbmathconfessions/>]

add

AlumniSecyMathematics-dept

[link: <https://www.facebook.com/alumnisecy.mathematicsdept>]

- You can join the Google groups of various institute clubs such as literary arts, speaking arts, Photography etc. As per your interests.
- Download **ftcash** and go cashless in the institute and you will get a discount too.
- Important Contact Numbers:
 1. Ambulance: 1101/1110
 2. Hospital: 7051
 3. Main gate: 1123
 4. Y point Gate: 1121
 5. Public Health Office: 7056

Academic E-Resources

- **NPTEL National Programme on Technology Enhanced Learning(NPTEL)**

Link: <https://onlinecourses.nptel.ac.in/>

Purpose: NPTEL is a joint initiative of the IITs and IISc. Through this initiative, they offer online courses and certification in various topics which are free for all and have certification exams (For a nominal fee). Learn anytime,anywhere! Only requirement is interest and enthusiasm to learn.

- **Mathematics Stack Exchange**

Link: <https://math.stackexchange.com/>

Purpose: This is a question and answer site for people studying math at any level and professionals in related fields. Join them, it only takes a minute. This will help you while studying.

- **CDEEP , IIT BOMBAY**

Link: <http://www.cdeep.iitb.ac.in/>

About: CDEEP would like to share the expertise of IIT Bombay faculty with students and Working professionals. The courses offered through distance education are the very same ones that are taken by IITB students. To reach as many learners as possible, CDEEP is using different mediums and various technologies.

Mission: At CDEEP, we are expanding our reach so that engineering and science students in every part of India and the world will have access to IIT Bombay's courseware.

Photo Gallery











“This handbook is compiled by the Mathematics Department ISCP Team. We thank all the people who helped a lot while making the handbook. We hope this will be more beneficial to you!!!”