DEPARTMENT OF METALLURGICAL ENGINEERING AND MATERIALS SCIENCE

PG HANDBOOK 2022-23

IIT BOMBAY

Disclaimer

Though the ISCP (Institute Student Companion Program) has taken care while compiling the handbook, neither the councilor 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/ statutes. 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.

Contents

Welcome Note from the Head of Department

Dear grad students,

It gives me great pleasure in welcoming you to the Department of Metallurgical Engineering and Materials Science. ***Congratulations! You are being admitted to the department that has been rated 99 in the world as per QS ranking.***

Our MTech program is with different specializations, namely, Materials Science, Process Engineering, Steel Technology and Corrosion Science & Engineering. We also offer an interdisciplinary program on Modelling, Materials and Manufacturing (MMM) with Mechanical Engineering and Mathematics. Depending on your interest and your future career aspirations, you get the opportunity to choose, learn and work on a broad spectrum of problems ranging from our country's industrial needs to developing materials for the future.

The department faculty has wide range expertise in various aspects of metallurgical engineering and materials science, spanning from processing, characterization, performance evaluation and modelling. The department is equipped with state of art facilities for conducting high quality research in these aspects.

IIT Bombay is a great place for learning and gives immense opportunity to broaden your perspective while you focus on your research problem. Please interact with our faculty members and most importantly with your peers from various labs within the department as well as outside. Often innovative ideas come when you open up your minds to listen to researchers from other fields. IIT Bombay also provides wonderful opportunities to explore your extracurricular activities. It is important to spend time on these activities as well that can catalyse your academic pursuits.

Welcome to MEMS, IIT Bombay and best wishes for your various academic pursuits.

PROF. N. N. Viswanathan

Head of the Department

Message from IMR, Post Graduate Academic Council (PGAC)

Welcome Freshers!
We all have gone through a lot in these past couple of years, so firstly congratulations to all of you for securing admission in one of the prestigious institutes in the country. IIT Bombay provides best exposure to its students in all the aspects, both academically as well as non-academically. The skills you develop here, the interactions you have with people here will stay with you throughout your life. The post- graduation demands something additional compared to the under graduation, more time, more effort, more determination and a ton of dedication. For meeting these primary requirements, often we find ourselves in a daunting situation.

In order to make your stay at IIT Bombay convenient, the institute has established the PGAC (Post Graduate Academic Council). Any technical necessity, any placement related assistance, any research queries or any academic grievances, you can always reach out to us. Each department has their own AURAA (Academic Unit Representative of Academic Affairs), whom you can approach directly in case you find any difficulties. Wishing you all a really convenient and productive IIT journey!

Regards,

Mohit Meena

Institute Secretary, Academic Affairs (Masters)
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Welcome Note from Institute Students Companion Program (ISCP)

Dear new entrants,

Heartfelt congratulations for embarking on one of life's most memorable journeys - the journey of learning at IIT. On the behalf of our prestigious institute of IIT Bombay, team ISCP welcomes you aboard.

Give a pat on your shoulder for having achieved this feat. Your dedication, hard work and perseverance brought you here, and we know that your experience will lead you towards great opportunities. We can guarantee that your time here on this colossal campus will be exciting and knowledgeable. A degree will just be a small portion of what you will be leaving this institute with. You will also leave with beautiful memories of late-night conversations, interesting wing cultures, and crazy birthday parties (oh you are going to miss those!!). You will have the opportunity to mingle in various clubs and societies where individuals strive to become experts in their fields and devote endless hours. As a result, there will be many chances to learn inside and outside the classroom. So entering this new universe in itself presents both exhilaration and potential difficulties. This is where we will help you by providing the tips you need to handle these difficulties and enjoy your time at IIT Bombay.

Now, you should be thinking what on earth is this ISCP? Institute Student Companion Programme (ISCP) is a student body with the primary objective of building a relationship of trust and comfort between the on-roll students and the incoming students of the PG programmes. We are here to help you get familiar with the ways of IITB, guide you through your ups and downs and make sure that each voice is heard. You will become part of a culture where people want to perfect their craft and thus work day in and day out. Various events are organised by the cultural, technical, and sports clubs in the institute throughout the year. Managing these along with 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 want to help you in low and high tides as an act of giving back what they received from the programme. You can rely on the team for any advice or information on anything you are venturing out into, whether it be academics or extracurriculars, any issues that you are facing, any support or requirements that you want to raise as a part of the student community. And at last but undoubtedly not least just for regular interaction because that is all the programme holds at its core. The knowledge and the experience that our student companions have gained with their stay on the campus will help your transition become smooth. From campus tours to classroom lectures, from the grading system to completing the syllabus, from the profile to placements, from Schezwan Frankie to curry-pakora, they will be there for you.

We are sure that the last couple of years have been rough for many of you. But as we know that life moves on. So, make sure that you make the best out of your journey at IIT Bombay. Come and contribute to this vast store of knowledge and help it become more vibrant and colourful.

The campus of IIT Bombay awaits your presence; see you there.

Welcome Note from Institute Students Companion Program (ISCP)

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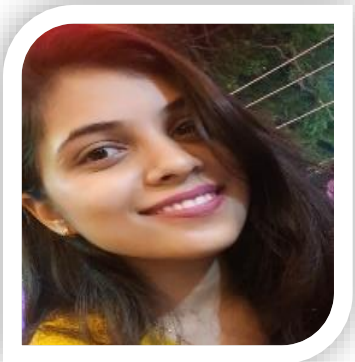

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About the Institute

IIT Bombay is recognized worldwide as a leader in the field of engineering education and research. Reputed for the outstanding caliber of students graduating from its undergraduate and postgraduate programmes, the institute attracts the best students from the country for its Bachelor's, Master's and Doctoral programmes. Research and academic programmes at IIT Bombay are driven by an outstanding faculty, many of whom are reputed for their research contributions internationally.

IIT Bombay also builds links with peer universities and institutes, both at the national and the international levels, to enhance research and enrich its educational programmes. The alumni have distinguished themselves through their achievements in and contributions to industry, academics, research, business, government, and social domains. The institute continues to work closely with the alumni to enhance its activities through interactions in academic and research programmes as well as to mobilize financial support.

Located in Powai, one of the northern suburbs of Mumbai, the residents of the institute reap the advantage of being in the busy financial capital of India, while at the same time enjoying the serenity of a campus known for its natural beauty.

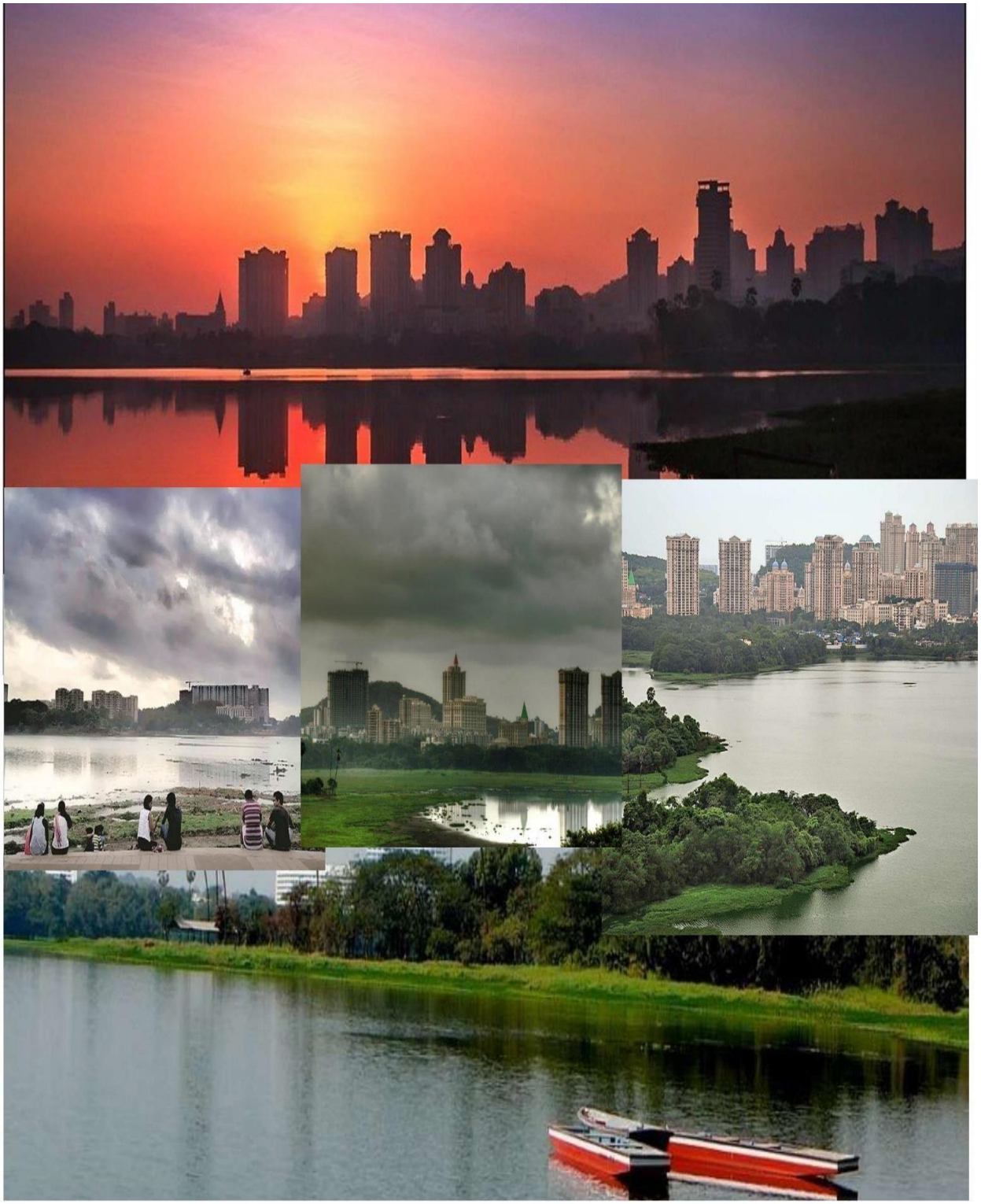
Goals of the Institute

1. Enhance engagement with society and industry
2. Broaden educational areas
3. Improve internal support systems
4. Enhance student experience
5. Broaden funding base
6. Attract international students and faculty
7. Advance frontiers of knowledge

Gallery

IIT Bombay Main Building

Glimpse of Library, Classroom, Computer Centre & Auditorium



Lake Side View

About the Department

The Department of Metallurgical Engineering was set up in the early 1960s under the leadership of Late Prof. G. S. Tendolkar. During the early days, the Department was endowed with grants to acquire equipment and quickly established itself as preferred destination for students seeking to do quality research in metallurgy. Mid-nineties saw an expansion of the Department to encompass areas in materials science. This expansion includes several fields of studies like polymers, composites, semiconductors and computational materials science which ultimately has taken the worship of knowledge to the next level. The Department of Metallurgical Engineering and Materials Science is devoted to the design, creation and fundamental understanding of materials by understanding relationships between processing, structure, properties and performance in engineering applications. The Department is well known for its broad-based academic program, its highly regarded faculty, and the high caliber of its students. Its continuing record of pioneering advances in engineering sciences and technologies stems from its ability to relate new developments and advances to engineering practices, and its close relationship with industry. These advances are then incorporated in current teaching and research programs.

For details, refer: http://www.iitb.ac.in/mems/en

ACADEMIC OVERVIEW

The Department of Metallurgical Engineering and Material Science, IIT Bombay offers various academic programs and has a large research activity spanning many areas. The Department offers the following degree programs:

(i) BTech – 4-year program
(ii) Dual Degree (BTech + MTech) – 5-year program
(iii) Post Graduate (MTech) – 2-year program
(iv) Doctorate (PhD)

The curriculum for these programs has been developed keeping in view the present technological status and future needs. It provides a strong background in conventional materials like ferrous and non-ferrous alloys as well as advanced materials like electronic materials, ceramics, composites, and polymers.

About the Department

The four semester M.Tech program is designed for students with BTech/MSc Background. The Department offers five specializations for MTech program:

(i) Material Science
(ii) Process Engineering
(iii) Steel Technology
(iv) Corrosion Science and Engineering, and
(v) MMM- Materials, Manufacturing, and Modelling

Strong inter-disciplinary research encompassing a broad range of materials with focus on 'Make in India' concept is at the core of the Department. The Department has a strong base in material synthesis, processing, theory and computational material science.

LAB FACILITIES

Execution of the research plans requires both personnel and facilities. The Department has achieved major strides in acquiring as well as developing state of the art facilities for materials processing and characterization. The Department has over 25 laboratories and is considered one of the best in India.

Some of the major materials processing facilities include:

1. Oriental Imaging Microscopy (OIM) & Texture Lab
2. X-Ray Lab
3. Nano-indenter facility
4. Physical property measurement facility
5. TEM sample preparation facility

About the Department

6. Scanning Probe Microscopy
7. Confocal/AFM/SNOM
8. Focussed Ion Beam
9. Ultimate Testing Machines
10. Impact Testing Machines
11. Mechanical Characterization Lab

Some of the important materials characterization facilities available in the Department

1. SEM/ EDAX
2. XRD with high temperature
3. DSC/ DTA
4. OIM/ SEM/ XRD (National facility)
5. Mechanical Testing systems
6. FTIR, UV-Visible, AAS
7. Surface area analyzer
8. Microscopes

Apart from the above, MEMS Department also houses a high-performance computing (HPC) cluster to assist in modelling and simulation-based studies. Apart from above, Students can also use the facilities under SAIF, IRCC, CEN, NCPRE.

OTHER FACILITIES IN THE DEPARTMENT

LIBRARY: The Department of MEMS at IIT Bombay boasts of having one of the finest collections of books in the field of Metallurgy and Materials Science. We have various journals from all round the world to satisfy the ever-growing curiosity of our students. We have an exquisite collection of books which is open to all the students and faculty for referencing and providing useful insights into the cutting-edge technology in the world of Materials Science. It is located in the first floor of MEMS Department (opposite to elevator). The library also contains a collection of doctoral and master's thesis of students passing out every year. The Department library is open from 9:30 am to 5:30 pm. Research Scholars can issue the books available in the library.

COMPUTER ROOM: MEMS Department has a computer room equipped with the latest hardware and software to handle the needs of the students as well as the faculty. The computer room is located on the first floor of the Department opposite the Department library.

Faculty (MEMS)

Head of Department
Prof. N.N. Viswanathan

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Research Interest:
Blast furnace modelling, Transport phenomenon, Process Metallurgy

PERMANENT FACULTY

Please follow the site for details of the faculty: *www.iitb.ac.in/mems/en/people/faculty*

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Departmental Placements overview

Globally, IIT Bombay placements has had monumental progress. The placement phase had a gamut of recruiters from the entire industry, primarily dominated by Engineering, Information Technology, Software programming, Research, Consulting, Finance, Banking and Services. It was a challenging situation for the IIT placements because of the pandemic, yet IIT Bombay maintained a very good placement ratio. When it comes to departmental placement it is seen that students are able to get both core and non-core job profiles.

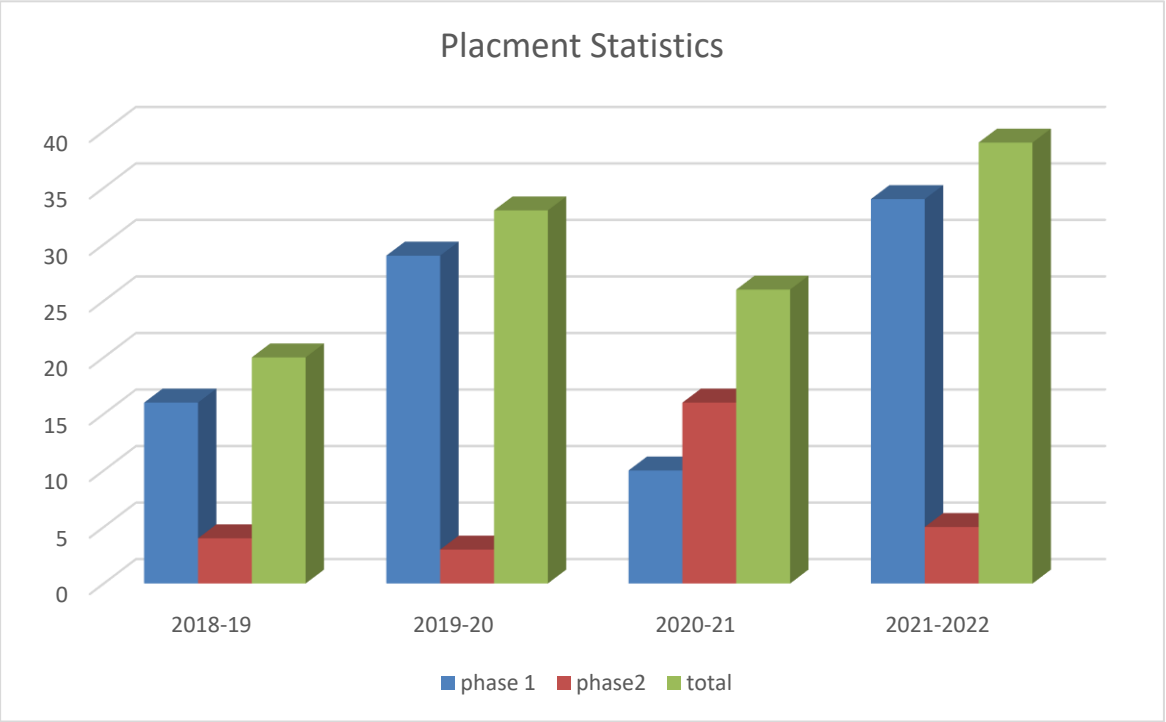
CORE	NON-CORE
• Metallurgical Engineering (steel, Corrosion, Coating)	• Data Analytics/ Machine Learning/Artificial Intelligence
• Chemical Engineering	• Software/Coding
• Batteries, Semiconductor, Solar Cells	• Finance
• Polymers, Composites, Ceramics	• Consulting
• Modelling and simulation	• Education/Services/FMCG
	• POR based jobs

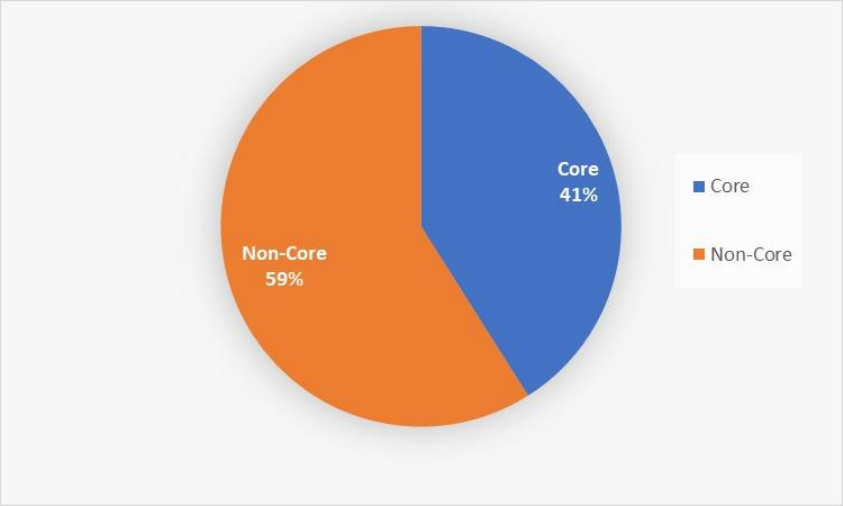
As compared to last year where number of students that got placed out of 55 registered students were 26, this year a significant increase in the number is seen. Even though there was pandemic, the department managed to uphold a decent attraction for the recruiting firms. Out of 48 registered students 5 students dot placed in 2nd phase this year.

Total Registered Candidates for placements (2021-2022)	48
Number of Students Placed (2021-2022)	39
Number of Students didn't sit for placement (2021-2022)	3
Number of Students Unplaced (2021-2022)	6

Some of the key points from 2022 final placement report are as follows:

- This year highest salary offered to the batch was INR 56 LPA (International) and 30 LPA (Domestic). Last year the highest salary offered was INR 22 LPA.
- The average Domestic salary for the batch was around INR 13-14 LPA.


Placment Statistics
40
35
30
25
20
15
10
5
0
2018-19
2019-20
2020-21
2021-2022
phase 1
phase2
total


Core
41%
Non-Core
59%
Core
Non-Core

Recruiters of placement session 2021-2022:

MTech Project Topics – 2021-22

Name of Candidate & Roll No.	MTP Title (Name of Guide & Co-Guide)	Seminar Title Name Of Guide & Co-Guide
Amit Ashok Rade 203110044	Large Data Analysis On Corrosion (Prof. S Parida)	Hydrogen Permeation Of Iron Alloys (Prof. V Dandapani)
B Vinith 203110010	A Thermodynamic Study Of Inclusion Modification In Liquid Steel (Prof. M Pande)	Recent Advances In Electrode Materials For Lithium Ion Batteries (Prof. T Prasanna)
Sunil Pandit 203110032	Welding Of Head Hardened Steel (Prof. K.Narasimhan & Prof. K. Bhanumurthy)	Preparation, Microstructure And Properties Of Head Hardened Steel (Prof. MJNV Prasad)
T V K Sandeep 203110042	Enhancing Mgo-C Refractory Life By Addition Of Cma' (Prof. D Kumar & Prof. P Bhargava)	Asaro Tiller Grinfeld Instability And Its Effect On Stress Corrosion Cracking (Prof. Mp Gururajan)
Kongari Uday Kumar 203110066	Development Of Indigenous Screen-Printable Silver Paste For Solar PV (Prof. P Bhargava)	Effect Of Alternating Current On Cathodic Protection On Pipelines (Prof.V. Dandapani)
Venkat Sai 203110035	Development And Evolution Of Inorganic Corrosion Coatings (Prof. S Parida)	Statistical Analysis Of Mechanical Properties Of Structural Steels (Prof. H Gokhale)
Aftab Alam 203110034	Remediation Of Methyl Orange In Water Samples Using Graphene Based Materials (Prof. S Saxena)	Gas Atomization Processes To Make Metal Powder For 3d Printing (Prof. D Kumar)
Dhananjai Krishnakumar PM 203110021	Open-Source Software Development For Phase Field Modeling (Prof. MP Gururajan)	Shape Memory Alloy As Buffer For Li -Ion Batteries (Prof. P Pant)
Bibek Samanta 203110009	Development Of Nasicon (Na3zr2si2po12) – Based Solid Electrolytes For Na-Ion Batteries (Prof. A Mukhopadhyay)	Polymer Melt Adsorption : Mechanism , Kinetics And Effect On Physical Properties (Prof. M Chowdhury)
Kapil Gupta 203110065	Natural Gas Hydrates From Krishna- Godavari Basin (Prof. D Kumar & Prof. Sanjay M Mahajani)	Use Of Machine Learning & Data Science In Photovoltaics (Prof. S Mallick)
Sagar Bhanarkar 203110030	Photocatalytic Treatment Of Water Using Advanced Oxidation Process (Prof. S. Saxena)	Electrode Consumption In Electric Arc Furnace (Prof. D Kumar)
Nitesh Kumar 203110045	Fe_3O_4 Nanostructures: Novel Electrode Material For Supercapacitors (Prof. S Saxena)	Effect Of Hydrogen And Chlorides On Mechanical Strength Of 410 Ss (Prof. V Dandapani)
Chandni VC 203110020	Instabilities In Non Equilibrated Polymer Films (Prof. M Chowdhury)	Biofilm: Formation And Dynamics (Prof. M Chowdhury)
Gyandeep 203110018	Mist Cooling With Compressible Fluid	Recycling Of Materials From PV Modules (Prof. S Mallick)

	(Prof. D Kumar & Prof. NN Vishwanathan)	
Avdhesh Kumar Sharma 203110001	Development Of Tunnel Junction Of Hit-Ibc Solar Cell (Prof. RO Dusane)	Moore's Law And Gate Dielectric Materials (Prof. RO Dusane)
Ishita Biswas 203110023	Tuning The Transition Metal Oxide Cathode Materials For Alkali Metal-Ion Batteries (Prof. A Mukhopadhyay)	Flexible And Printed Sensors For Assets Tracking (Prof. D Gupta)
Subhnit Roy 203110057	Effect Of Alloying Elements On The Corrosion Behaviour Of Low Alloy Steels (Prof. S Parida & Prof. VS Raja)	Hydrogen Induced Degradation Of Ahss (Prof. V Dandapani)
Amar Kumar 203110056	Recovery Of Ag, Al, Si From Broken Solar Cells (Prof. S Mallick)	Advancement In Solar Cells (Prof. S Parida)
Ritu Raj 203110024	Electrochemical Energy For Nano -Carbon Materials (Prof. S Parida)	Modelling And Simulation Tools For Photovoltaic (Prof. S Mallick)
Rubal Siyag 203110015	Zn-Mn Alloy Coating By Electrodeposition (Prof. MJNV Prasad)	Thermally Insulating Nano Materials (Prof. DS Patil)
Uday Shankar 203110059	New Materials For Ultra High Temperature TBCs (Prof. A Gandhi)	Synthesis Of Zirconium Diboride Powders. (Prof. P Bhargava)
Shubham Balasaheb Pawar 203370005	Protocols For Machine To Machine And Machine To Human Communication For Smart Manufacturing (Prof. A Tewari)	Vibration Based Machine State Detection (Chatter, Tool Wear And Spindle Damage) (Prof. A Tewari)
Saket Kesalkar 203110019	Development Of Plasma Deposited Siox Thin Films For Flexible Optical Display Technology (Prof. RO Dusane)	Anode Materials For Sodium Ion Batteries (Prof. A Mukhopadhyay)
Anushree Mittal 203110027	Remediation Of Cresols From Water Using Graphene (Prof. S Saxena)	Preparation, Structure, Properties, And Applications Of Graphene Oxide Gel (Prof. AR Bhattacharyya)
Ranjit Khedkar 203110055	Stress Corrosion Cracking Initiation In High Strength Aluminium Alloy Using A Submersible Optical Microscope (Prof. VS Raja)	Corrosion Behaviour Of Bainitic Steel (Prof. V Dandapani)
Manogna Raj M 203110062	Synthesis Of Doped Si Nanowires And Their Characterization For Thermoelectric Generators. (Prof. RO Dusane)	Study Of Spinoidal Decomposition Using Tem And Apt (Prof. MP Gururajan)
Vivek Yadav 203110007	Water Desalination Using Graphene-Based Nanoconposite (Prof. S Shukla)	Graphene-Based Nanoconposites: Synthesis, Properties And Applications (Prof. S Shukla)
Atul Khapake 203370004	Vibration-Based Machine State Detection In Metal Cutting Process (Chatter, Tool Wear, And Spindle Damage) (Prof. A Tewari)	Protocol For Machine To Machine And Machine To Human Communication (Prof. A Tewari)
Bhawna Sawdia 203114004	Sip Modelling (Prof. NN Vishwanathan & Prof. D Kumar)	Slag Foaming In Steel Making (Prof. M Pande)

Divyanshu Khandelwal 203370002	Deep Learning Model For Human-Machine Communication Or Artificial Intelligence To Assess Aesthetic Appeal Of Apparels In Fashion Technology (Prof. A Tewari)	Data Analytics And Physical Modelling Of Investment Casting Defect Detection (Prof. A Tewari)
Rajrishi Sarkar 203110061	Predicting The Efficiency Of Organic Inhibitors (Prof. S Parida)	Data Driven Statistical Model To Predict The Critical Temperature Of Superconductors. (Prof. H Gokhale)
Niharika Gupta 203370001	Data Analytics And Physical Modeling Of Investment Casting Defect Detection (Prof. A Tewari)	Deep Learning Model For Human-Machine Communication (Prof. A Tewari)
Prakhar Nama 203370006	Machine Learning For Material Informatics (Prof. Alankar Alankar)	Discovery Of Material For Carbon Capture (Prof. Alankar Alankar)
Aaryan Bagani 203110002	Data Based Approach Towards Defect Analysis :Process Parameter Correlation (Prof. MP Gururajan & Prof. H Gokhale)	Statistical Study Of Mechanical Properties Of Composites. (Prof. H Gokhale)
Sushma J Kurapati 203370007	DRI Shaft Modelling Using Openfoam (Prof. NN Vishwanathan)	Sensors For Corrosion Detection (Prof. S Parida & Prof. VS Dandapani)
Tabish Taj 203110036	Influence Of Graphene On The Morphology And Mechanical Properties Of Pa6/Abs Blends (Prof. AR Bhattacharyya)	Influence Of Graphene Dispersion On The Morphology, Rheology And Electrical Conductivity Of Binary Polymer Blends (Prof. AR Bhattacharyya)
Himanshu Chauhan 203110043	Multicomponnent Re Ebc. (Prof. A Gandhi)	Plasma Electrolytic Treatment (Prof. DS Patil)
Archit 203110046	Effect Of Deformation On Hydrogen Diffusion In Dual Phase Steel With Different Martensitic Content (Prof. VS Dandapani)	Hydrogen Permeation (Prof. VS Dandapani)
Shubham Kumar 203114005	Modelling Of Burden Distribution In Blast Furnace (Prof. NN Vishwanathan & Prof. D Kumar)	Production And Characteristics Of Dri (Prof. D Kumar)
Chandu Soren 203110063	Pyrometallurgical Method To Separate Metals From Electronic Waste (Prof. D Kumar & Prof. S Mallick)	Recent Developments In High Efficiency Perovskite Solar Cell. (Prof. S Shukla)
Abhinav Kant Mishra 203110051	Fabrication Of Graphene Quantum Dots Based Solar Cells (Prof. S Saxena)	Graphene As Electrode Material For Supercapacitor (Prof. S Saxena)
Sonu Kumar 203110037	Remediation Of Organic Compounds Using Graphene. (Prof. S Saxena)	Rare Earth Values Present In Cell Phones And Their Recovery. (Prof. S Mallick)
Vibha Sharma 203110052	Studying Mechanical Properties Of Nickel Base Superalloy Ds Blades (Prof. P Pant)	Electrode Materials For Sodium Ion Batteries (Prof. J Rangrajan)
Lokesh Mahavar 203110026	Polymer Membrane For Water Purification (Prof. S Shukla)	Polymer Membrane For Water Purification (Prof. S Shukla)

Francis Jaya Suriya B 203370003	Vibration Based Machine State Detection In Metal Cutting Process (Chatter, Tool Wear And Spindle) (Prof. A Tewari)	Metal Additive Manufacturing Of Light Weight Load Bearing Parts (Prof. Amitava De)
Ankush Nag 203110049	The Role Of Si And Mn On Descaling And Picking Behavior Of Low Carbon Steel. (Prof. MJNV Prasad)	Application Of Graphene And Carbon Nano Tubes In Li-Ion Batteries. (Prof. DS Patil)
Sumit Singh 203110050	Design Of Ceramic Filter (Prof. S Saxena)	Mofs As Electrode Material In Sc (Prof. S Saxena)

Department Organisations

The Research Scholars of Metallurgical Engineering and Materials Science department has two major student organisations:

METALS & MATERIALS ASSOCIATION (MMA)

The Metals and Materials Association, IIT Bombay is an organization of students, faculty, staff and alumni of the Department of Metallurgical Engineering and Materials Science. The major objective of MMA is to work together for elevating and propagating awareness in field of metallurgical engineering through a wide spectrum of activities and events.

DHATUKI

Dhatuki is the technical magazine of the Department of Metallurgical Engineering and Material Sciences of IIT Bombay. It has been conceptualized to showcase the latest in materials technology and research with contributions from eminent personalities and research organizations.

Department Achievements and Extracurriculars

1.Cultural

To showcase an astounding artistic talent that folks at IITB holds and preserve enthusiasm in college life, various cultural activities are organised in IIT Bombay which are classified under 13 genres. Students from all departments participate in these activities. Our department also has considerable participation and achievements in cultural events and activities.

A. 2nd Position at

GEETYARA(Instrumental): Neelanjan Bhattacharjee

B.3rd Position at GEETYARA(Vocals): Siddhi Umakant Jadhav

C. Special mention at Abhivyanjana (Indian Languages) Informals

Phase 2: Keerthiga G

D. Post Graduate Cultural Night

2. Metals & Materials Association (MMA)

MMA is a non-profit organization. All the students, faculties of Metallurgical Engineering & Materials Science department are the members of MMA. Its major objective is to promote student - faculty interaction and to work together for elevating and propagating awareness in the field of metallurgical engineering through a wide spectrum of activities and events.

Here are some of the activities and initiatives done by MMA in the last year:

a) Traditional Day:

b) MMA IIT Bombay YouTube channel has been launched this year which covers interesting topics like “Know your prof” and “Exploring the Labs” introducing every lab and sophisticated machines in the department building and much more.

3. DHATUKI-The official newsletter of the department:

Dhatuki, literally meaning “related to metal” is a department magazine that aims at providing the readers with the latest buzz in Materials research and make them aware of all the opportunities possible in this field.

This year’s theme for Dhatuki was Computational Materials Science wherein various articles from students as well as professors who work in this field were collected and an alumnus of MEMS IITB has been interviewed.

4. Material Advantage

For students interested in Materials Science and Engineering, the Material Advantage Student Program is the best solution. Material Advantage is a student-run organization dedicated to the academic and professional development of materials science and engineering students at the **Indian Institute of Technology Bombay**. We collaborate to raise awareness and interest in materials science, as well as provide professional development opportunities for our members and organize public outreach events to educate the general public about the field.

Scholarships and awards, career development and information, and access to professional and academic resources are all available through this program, which is sponsored by the most prestigious societies: ACERS, AIST, ASM International, and TMS. The material advantage IIT Bombay Chapter started in 2020. Till now some events are organized as following:

Events:

1. **Talk about "Working for a manufacturing organization (and enjoying it)" by Prof. Sanjay Chandra on 1st March 2022.**

The talk was organized on "Working for a manufacturing organization (and enjoying it)". The Speaker was Prof. Sanjay Chandra (Prof of Practice at IIT Bombay) who has 30 years of experience in Tata steel.

2. **Industrial plant visit to Mahindra Kandivali on 11th May 2022.**

An industrial visit was organized by material advantage IIT Bombay, at Mahindra and Mahindra Kandivali Auto division. Group of students from various departments and programs like Ph.D., MTech, and BTech participated in the events.

Student Web

IITB INTERNET ACCESS

Link: https://internet.iitb.ac.in

Purpose and Procedure: Your roll number will be provided to you during institute orientation with welcome kit. You should remember this 9 digit roll number. You will get an LDAP id which you can use to browse the internet inside the campus. The default id is your roll number and default password are your date of birth and you can change it later.

APPLICATION SOFTWARE CENTRE (ASC) – ADMINISTRATION

Link: http://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 under:

- Payment of fees
- Registration and de-registration from courses
- Checking previous year's grading stats for any subject
- Brief contents of all subjects being offered
- Own personalised timetable
- Checking of own academic performance (grades)

MOODLE – ACADEMICS

Link: http://moodle.iitb.ac.in

Purpose: This website provides academic interaction between students and faculty for all courses enrolled by a student. You can download study material/ books/ notes uploaded by a professor/ TA and also submit projects etc. here. The website also offers an interaction platform where you can interact with the Professor/ TAs/ other students on any subject related matter.

WEBMAIL – MAILING INTERFACE

Link: https:// https://webmail.iitb.ac.in/

Purpose: This is your personalised e-mail in IIT. Every student gets one when you enroll. Along with normal mail, here you also get alerts or registration/ deregistration of courses, fees payment and any broadcast on Moodle among others. The general email id looks like: [yourrollnumber]@iitb.ac.in

Student Web

DEPARTMENT WEBSITE

http://www.iitb.ac.in/mems/en

Purpose: Any activity happening in the Department be it formals like steel symposium, poster presentation to informal like kurta day everything will get updated on the website. To get an update of present research happening inside the Department. To know your department research facility and faculty.

CENTRAL LIBRARY

Link: http://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.

MAINTENANCE COMPLAINT PORTAL

Link: https://support.iitb.ac.in/support/login.jsp

Purpose: This website helps you to register any hostel related complaints like tube light not working, bed bug, leaking tap, water cooler not working. Just login through your LDAP id and password, chose category and submit.

ROOM BOOKING SYSTEM

Link: https://gymkhana.iitb.ac.in/~hostels/portal/GABS/index.php

Purpose: You can book room for your family and friend. There is cap of 5days on family member and 2 days for non-family member. Login using LDAP id and password and fill the basic detail of guest and upload scan copy of identity card of the guest.

RULES FOR MTECH

http://www.iitb.ac.in/newacadhome/MTechRules.pdf

Purpose: To understand the rules for M.Tech from admission like registration, course adjustment, credit system, course drop, financial support, grade system, performance requirement etc.

RULES FOR PHD

http://www.iitb.ac.in/newacadhome/phdRules.pdf

Purpose: Purpose: To understand the rules for Ph.D. like admission, registration, course structure, course assessment, synopsis and thesis

Student Web

Submission, and evaluation etc.

ACADEMIC CALENDAR

http://www.iitb.ac.in/newacadhome/Academiccalendar201910July.pdf
Purpose: Provides dates from registration to the end semester and covers all important dates in between.

SOME IMPORTANT LINKS

Placement
http://placements.iitb.ac.in/

IITB library
http://www.library.iitb.ac.in/index.php

Entrepreneurship cell
https://www.ecell.in/2018/

Gymkhana IITB
https://gymkhana.iitb.ac.in/

Lost and found
https://gymkhana.iitb.ac.in/~hostels/lostnfound.php

SARC
http://www.sarc-iitb.org/#/

International relations:
http://www.ir.iitb.ac.in/

DAAD scholarship
www.daaddelhi.org/en

Software by IITB
http://ftp.iitb.ac.in/

STAB
https://stab-iitb.org/

ANDROID APPLICATIONS

m-indicator: Explore Mumbai.
Instimap: Know your campus.
Ftcash, payTM, Phonepe,Tez

IMPORTANT CONTACT NUMBERS

Ambulance: 1101/1110
Hospital: 7051
Main Gate: 1123
Y-Point Gate: 1121
Public Health Office: 7056
Quick Response Team: 9167398598/ 9167398599/ 9833337979/ 9833338989

ASC EXTERNAL PORTAL

Link: https://portal.iitb.ac.in/asc/Login

Purpose: It is basically a public page which you can access from anywhere with your LDAP Id. It includes your personal details to academic performances. And very useful to make semester or any other fee payments when you are especially not connected to IITB network domains.

IIT BOMBAY CULTURALS

Pixels: Photography club of IIT Bombay

Rang: Fine arts club of IIT Bombay

InSync: Dance club of IIT Bombay

Symphony: Music club of IIT Bombay

Fourth Wall: Dramatics club of IIT Bombay

SilverScreen: Film club of IIT Bombay

IIT Bombay Broadcasting Channel: Media channel of IIT Bombay

Vaani: Indian languages and poetry club

The Design Club: The design club of IIT Bombay

StyleUp: Fashion club of IIT Bombay

We Speak: Speaking arts club of IIT Bombay

IIT BOMBAY SPORTS

IIT Bombay Sports boasts of a rich culture, thriving on immense participation across 18 hostels and the kind of infrastructure most colleges can only dream of. Under its vast umbrella, we have sports at several levels. From Intra-hostel to Inter hostel, and of course, the crowning glory for every sportsperson here at IIT Bombay, the Inter IIT Sports meet.

Aquatics

Events:

- CAMPS
- NSO
- SWIMATHON
- SWIMMING GC
- TRIATHLON
- WATERPOLO GC

Athletics

Events:

- FRESHIE OPEN
- CROSSY GC
- PG ATHLETICS
- NSO
- ATHLETICS GC

Badminton
Events:

- BADMINTON GENERAL CHAMPIONSHIP
- INSTITUTE BADMINTON LEAGUE
- INSTITUTE DOUBLE'S OPEN
- INSTITUTE BADMINTON LEAGUE
- INSTITUTE FRESHMEN OPEN
- NSO

Basketball
Events:

- GENERAL CHAMPIONSHIP
- CAMPS
- IBP

Board Games
Events:

- GENERAL CHAMPIONSHIP
- WORKSHOPS
- COMPETITIONS

Cricket
Events:

- GENERAL CHAMPIONSHIP
- HIT AND RUN
- FRESHMEN CRICKET LEAGUE
- CRICFIESTA
- MIXED CRICKET
- PRARAMBH
- NSO

Football
Events:

- GENERAL CHAMPIONSHIP
- INSTITUTE FOOTBALL LEAGUE
- FRESHIE TOURNAMENT
- NSO
- GIRLS' BEGINNER'S CAMP

Hockey
Events:

- GENERAL CHAMPIONSHIP
- INSTITUTE HOCKEY LEAGUE
- TOURNAMENTS
- GIRL'S BEGINNER CAMP (AUTUMN SEM)
- BEGINNER'S CAMP (AUTUMN SEM)
- BEGINNER'S CAMP (SPRING SEMESTER)
- GIRLS CAMP (SPRING SEMESTER)
- NSO

KHO-KHO
Events:

- GENERAL CHAMPIONSHIP
- INSTITUTE KHO-KHO LEAGUE
- CAMPS
- NSO

Lawn Tennis
Events:

- GENERAL CHAMPIONSHIP
- INSTITUTE TENNIS CHAMPIONSHIPS
- INSTITUTE TENNIS OPEN
- INSTITUTE FRESHMEN OPEN
- WORKSHOPS AND CAMPS
- NSO
- INSTITUTE DOUBLES OPEN

Squash

Events:

- GENERAL CHAMPIONSHIP
- INSTITUTE SQUASH LEAGUE
- TOURNAMENTS
- CAMPS
- RACKETLON
- UV SQUASH WEEKEND
- NSO

Table Tennis

Events:

- GENERAL CHAMPIONSHIP
- INSTITUTE TABLE TENNIS OPEN
- FRESHIE OPEN
- WORKSHOPS AND CAMPS
- INSTITUTE TABLE TENNIS LEAGUE

Volleyball

Events:

- GENERAL CHAMPIONSHIP
- INSTITUTE VOLLEYBALL OPEN
- CAMPS
- NSO

Weightlifting

Events:

- GENERAL CHAMPIONSHIP
- POWERLIFTING AND ARM WRESTLING
- NSO

Adventure Club
Events:

- ADVENTURE SPORTS IN SAHYADRI RANGES
- MOUNTAINEERING, ADVENTURE, PARAGLIDING AND SKIING COURSES
- CYCLING CLUB
- SKATING CLUB

The Dark Knight club
Events:

- IIT BOMBAY RAPID CHESS OPEN
- INSTITUTE BLITZ CHAMPIONSHIP
- INSTITUTE RAPID CHAMPIONSHIP
- CANDIDATES TOURNAMENT

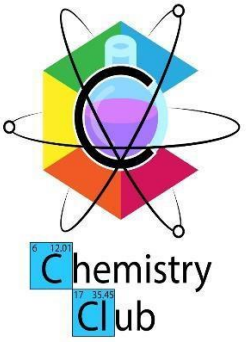
Yogastha
Events:

- YOGA SESSIONS AND WORKSHOP

IIT BOMBAY TECHNICAL CLUBS

- Aeromodelling
- Chemisty Club
- Electronics and Robotics club
- Krittika - The Astronomy Club
- Math n Physics
- Tinkerers' Lab
- Web and Coding Club
- Student Reading Group
- Innovation Cell IIT Bombay
- Pratham
- Team Shunya
- AUV-IITB
- Mars Rover Team
- IIT Bombay Racing

IIT BOMBAY TECHNICAL TEAMS



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. Take heart, you will not be the only one. 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.

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.

It is well known that the students experience lots of stress especially regarding their academic future in this covid-19 lockdown period. In this context many students were undergoing mental stress and there is a strong need to consider their mental health status. At IIT Bombay, Student wellness centre is the place where you can find help

Typical concerns for which you can 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
- Issues of grief and loss
- Stress, depression and anxiety
- Lack of motivation; concentration difficulties
- Others…

Counselling in this covid-19 lockdown period:

Due to sudden disruption to the ongoing semester and uncertainty about the future during COVID-19 lockdown, we understand you might be feeling stressed.

The Student Wellness Centre is with you at this time.

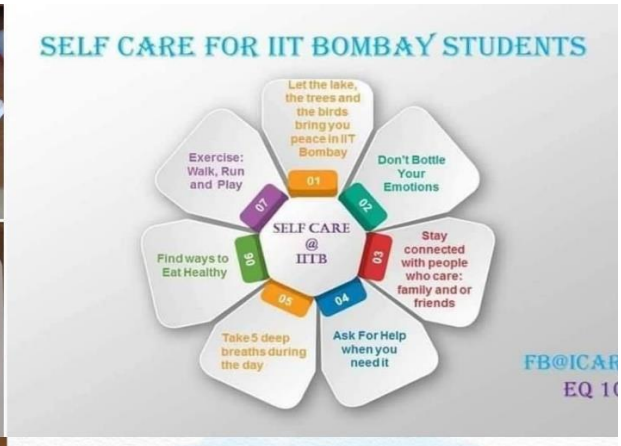
In case you wish to talk to a counsellor over phone, kindly contact us on the given numbers during the below-mentioned timings:

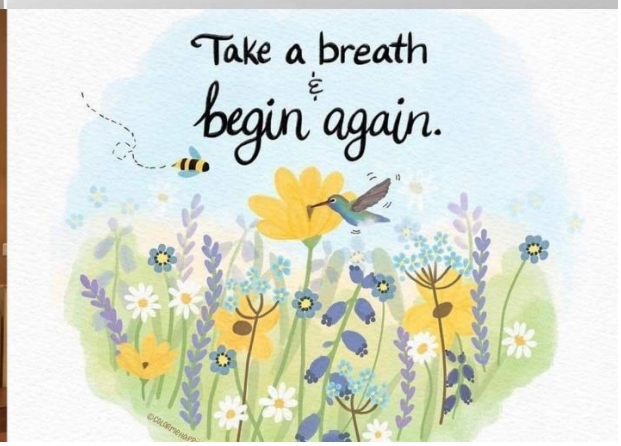
Timings: 11 am to 1 pm and 4 pm to 6 pm Mr.

Shoukath Ali- 8590594136/ 8174867876

Contact Details for SWC:

Student Wellness Centre
3rd floor, above Academic section, Main building
Contact Number: 022-2576-9070





Gender Cell

In recognition of the Institute's belief that its students have a right to be treated with dignity and respect, the Cell works actively towards developing a safe and secure environment for its students, 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) inquiries 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.

As a student of IIT Bombay, you can find all help needed in this regard. All the preceding and enquiries done by gender cell are confidential. So, for any help regarding this free to contact gender cell.

Contact details:
3rd Floor, Main Building,
Next to Student Wellness Center,
IIT Bombay, Powai, Mumbai - 400076.
Contact No: 022-2576-505

Thanking

Being the best institute in India, IIT Bombay is also acknowledged for mentorship programming in many ways and ISCP is most dynamic body, in order to help students of IIT Bombay. ISCP family includes more than 170 mentors which will help us to grow in all directions. ISCP team welcomes all the new-comers to our institute and make a tangible use of Institute's resources. ISCP team is always ready to help students and appeal to join future meeting. ISCP wishes to acknowledge all our mentors for helping new students in all possible ways.

Thanking again to all our new students.

Best Wishes!!