



The Institute of Science, Mumbai

Lead Institute of

Dr. Homi Bhabha State University (HBSU)

e-Prospectus 2023-2024

The Government of Maharashtra has established **the Dr. Homi Bhabha State University, as a Cluster University**, with the Institute of Science, Mumbai; Elphinstone College, Mumbai; Sydenham College, Mumbai; and Secondary Training College, Mumbai, as the *Constituent Colleges*. The Institute of Science, Mumbai is the **Lead Institute** of the University. All the colleges are more than 99 years old; the youngest the Institute of Science was established in 1920; while the oldest the Elphinstone College was established in 1835.

The University is an independent degree granting entity with its own Rules and Regulations. This is the first University of its kind in the State of Maharashtra and is established as per the guidelines of *Rashtriya Uchchar Shiksha Abhiyan (RUSA)*. The establishment of this University is expected to charge the Higher Education system in the State with new vigour. It will lead to optimum use of resources of the constituent colleges and will offer the learners wide options of learning with flexibility and assist them with student-friendly support system. It will generate contemporary and relevant infrastructure and provide undergraduate and post-graduate programmes in diverse disciplines under **choice based credit system (CBCS)**. The CBCS will adopt a cafeteria approach, where the students will be given freedom to select some courses from an array of courses as per their preferences. The students may take some of the courses across the constituent colleges. The programmes will be dynamic and demand driven. The students may participate in various activities organized by the constituent colleges.

Some Special Features of the HBSU

1. Being the University of Cluster of only four constituent colleges, which are geographically in proximity, the University would be managed and administered much more efficiently than any other state university.
2. All the constituent colleges are accredited by Grade „A“ by the NAAC.

3. All the colleges are elite colleges, are in existence for a long time, and with heritage mark.
4. The colleges are Government Colleges and hence the fee structure will be regulated and reasonable.
5. The students will be trained under New Education Policy-2020(NEP-2020) and offered subjects in a cafeteria mode.
6. The students studying any core subject will be allowed to take additional credits across the disciplines so as to enrich his learning experience.
7. The students can avail the expertise and facilities of the colleges in the cluster.
8. The assessment of the students will be through continuous and end semester examinations.
9. The University policies will be student-centric, with the examination process efficient and timely.
10. Enrichment lectures by outside experts will be arranged.
11. Selected students can do internship and projects.
12. Placement and training facilities will be provided.

Constituent Colleges

The Institute of Science, Mumbai (I.Sc.)

The Institute of Science, Mumbai, formerly known as the *Royal Institute of Science (RIS)*, was established in 1920 by the Royal Charter. It is a premier post-graduate centre for teaching and research. The I.Sc. has been identified as a centre with potential for excellence by the UG. It was reaccredited with Grade „A“ by the National Accreditation and Assessment Council (NAAC) in 2014. It is the Lead Institute of the Dr. Homi Bhabha State University.

The Institute has ten Departments – Biochemistry, Biotechnology, Botany, Chemistry, Data Science, Environmental Science, Mathematics, Microbiology, Physics and Zoology. It offers Masters and Research programmes in Science. The institute receives grants for infrastructure from the UGC, DST, and Government of Maharashtra. It provides excellent facilities for research. Every Department is well equipped with sophisticated instruments. The instruments include AAS, HPTLC, HPLC, GC-MS, TG/DTA, NMR, IR, XRD, PCR,

and Electrochemical Workstation. Its Library is one of the finest libraries in the city and provides large number of e-resources. The Institute has Botanical Garden with rare plants. The college provides limited Hostel facilities. It gives a number of Awards, Prizes and Scholarships to meritorious students.

Add: 15, Madam Cama Road, Mumbai-400032

Website: www.iscm.ac.in

Email: info@iscm.ac.in, admission@iscm.ac.in (for admission)

Tel No: 022-22828393 (10.0 a.m. to 6.00 p.m.)

STATE OF THE ART INFRASTRUCTURE

The Institute receives generous grants for infrastructure from UGC, The Department of Science and Technology and Government of Maharashtra. **DST has sanctioned grant of 2.13 Cr to the Department of Physics under FIST programme (2013 -18).**

Library

The library of Institute of Science is one of the finest academic libraries in Mumbai. The reading hall of the library is Majestic! Institute has promoted and encouraged research activities by providing facilities like computer systems, on-line e-journals, optical fiber



networking and internet connectivity. The library has a separate reference / periodical section with back volumes and current journals/dissertations/thesis for ready reference. The total stock includes above 26,000 books and 23,000 bound volumes of journals. All the books and

journals are catalogued using computer programming. The Institute is a subscriber to INFLIBNET-N list which makes available 75000 e-books and 3000 journals in full text format to the faculty, researchers and students. Each year new books are added. In addition, the library also has a photocopying and printing facility. The facility is extended to the students with a nominal charge of Re.1/- per copy. Internet facility is also available in the library. Library books are issued to the students for a period of 15 days. A fine of Re. 1/- per day per book is charged to the defaulter.

Departments have their own library. Some of the teachers in the Institute have their personal book collection as well and they issue the books to the students for reference work.



Laboratories

Every department of the Institute is well equipped with sophisticated instruments. Every year new facilities are added. Detailed list of sophisticated instruments in the Institute is available on the website. Most of the labs are high-tech labs and are used for research work. Most of the labs are High-Tech labs and are used for Research work. The Plant Tissue Culture Lab, Atomic Absorption Spectrophotometer, Nano Particle Analyzer, HPTLC, HPLC, GC-MS, TG/DTA system, Bioreactors, NMR, IR, FTIR, XRD, PCR etc. are some of the facilities available for the students.



Multimedia Center

Institute of Science has a multimedia center where students can avail the facility of accessing the internet for e-books, journals etc. There are facilities for photocopying, color printing etc.

Computers and Internet

All the departments also have several computers and are well equipped with internet facility. Computers are made available freely to the students.

Class-rooms

The students' satisfaction is of paramount importance for the Institute. For providing them satisfaction, the college has evolved effective method of teaching in the high-tech class-rooms which have good seating and lighting. The classrooms are equipped with overhead projectors as well as LCD projectors. Several departments like **Mathematics** and **Biotechnology** have modern teaching aids like **Interactive panels, Projectors, Visualizers** etc. Most of the lectures are conducted using ICT facility. Some of the class rooms are air conditioned.

Botanical Garden

It is the only Institute of its kind that can boast of having a botanical garden with rare plants, inside the campus, a rare phenomenon in South Mumbai. Students of other colleges are free to visit the botanical garden.



Gymkhana

The Institute of Science has a well-equipped gymnasium. Facilities for indoor games like table tennis, carom, multi-gymnasium equipment, chess etc. are made available to the students. Students are encouraged to participate in the Intercollegiate and college tournaments. Annual Sports' Day is held during December. Students scoring highest points in the athletic events are given the Championship awards.



Hostel Facility

There are two Government Hostels, The Boys' Hostel for Government Colleges, which is at a distance of about 1.2 km, and the Girls' Hostel, Savitribai Phule Mahila Chhatralaya on Marine Drive at a distance of about 3-4 km. In these hostels, a quota of seats is reserved for Institute of Science. In the Boys' Hostel, 45 seats are reserved for the male students of the Institute and in the Girls' Hostel 50 seats are reserved for the Institute students. Few seats are also reserved in the Ismail Yusuf College Hostel, Jogeshwari. Medical facilities are also available for students staying in the hostel. The application forms for admission to the hostel will be made available online after the admission as per the admission procedure laid down by the Government of Maharashtra.

Security and Safety

The Institute offers a very safe and secured environment with Close Circuit Cameras installed at all important places inside the premises and round the clock security. The Institute also has firefighting equipment in place.

STUDENT MENTORING AND SUPPORT

Philosophical Association

The Philosophical Association of the Institute organizes various cultural events, lectures on various current issues, Annual day Celebration with the help of Students' Council for the Institute students. The main aim of the Philosophical Association is to build up confidence in the students, ensure an all-round development and encourage qualities like organizational ability, leadership, public speaking, team spirit, sportsmanship, crisis management etc. Activities conducted by the Philosophical Association provide a platform for nurturing the innate talent of the students through various intercollegiate activities including elocution, essay writing, quiz competitions, dance, music, rangoli, painting etc. to hone the latent skills of the students. Financial aid is provided to the students for participation in extracurricular activities like sponsoring the entry fees for various intercollegiate competitions, research

activities etc. **A Cultural Festival is held in December every year.** An interesting feature of the festival is the selection of Mr. and Miss Institute based on personality contest.

Intercollegiate Fests

Students are motivated to organize intercollegiate bioscience events like Ozone Fest (Department of Environmental Science), Bionics (Department of Biotechnology), Sigmatics (Department of Mathematics). These activities are instrumental in bringing out the leadership, management as well as organizational skills in the students.

National Service Scheme (NSS)

The Institute boasts of the only NSS unit at Post Graduate level in the University. The NSS unit of the Institute organizes various activities. These activities are used to inculcate social concern in the minds of the students especially for the community development, women empowerment, spread of literacy and promotion of peace and harmony.



Scholarships and Fellowships

Students are offered various scholarships and fellowships as per merit and requirements. Needy students also avail of “Earn while you learn” scheme to support their studies. The students from SC / ST, OBC and economically weaker sections are supported financially by

the provision of freeships and scholarships received from the Government and other agencies.

Various scholarships include:

1. Government of India National Scholarship
2. Government of India freeships
3. Government of India Scholarship for SC/ ST students
4. Government of India Scholarships for rural Adivasis
5. Government of India Freeships for rural Adivasis
6. Rajiv Gandhi National Fellowship for SC/ST students
7. Maulana Azad National Fellowship for minority Students
8. Junior and Senior Research Fellowships (UGC, DST, CSIR, BRNS etc.)
9. UGC Teaching Fellowship (As per UGC rules)
10. UGC Post Doctoral Fellowship for Women Candidates
11. Department of Science and Technology (DST) INSPIRE Fellowship to do Ph. D. in Science and Technology (online forms available on www.inspire-dst.gov.in)
12. Societal Research Fellowship (SoRF) Programme for Women Scientists www.dst.gov.in, www.scienceandsociety-dst.org)
13. Disha – a programme for Women Scientists
14. Post Graduate Merit Scholarship Scheme for University rank holders
15. Government of Maharashtra Minority scholarship
16. Government of Maharashtra EBC/ PTC/ STC Scholarship
17. Government of Maharashtra Technical Scholarship (As per Technical Board)
18. Government of Maharashtra Ph. D. Research Fellowship
19. Government of Maharashtra Open Merit Scholarship
20. Daxina Fellowship
21. Post Graduate Indira Gandhi Scholarship Scheme for Single Girl Child
22. Research Fellowships in Sciences for Meritorious students
23. Dr. D. S. Kothari Post Doctoral Fellowships in sciences
24. Merit Scholarships and Free Studentships by University of Mumbai (for students registered for different post Graduate programmes in the recognized institutions (based on Merit Scholarships and Free Studentships criteria)
25. J. N. Tata Endowment Loan Scholarships (Application forms available from the Administrative Office, Mulla House, 4th Floor, 51, M. G. Road, Fort, Mumbai 400 001)

26. Scholarships for research in Mathematics at National Board for Higher Mathematics (Application forms available through <http://www.imsc.res.in/>)
27. Summer Research Fellowship Programme at Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore (Application forms available through <http://www.jncasr.ac.in/>)
28. Institute Merit Scholarship

Institute Awards and Academic Prizes

1. Amruta Rao Memorial Scholarships: M. Sc. (I and II) Biochemistry.
2. Uma Kela Prize: Lady Student standing first in M.Sc. (II) Biochemistry.
3. Mangal Krishna Deshmukh Mane Prize: M. Sc. (I and II) Biotechnology and M.Sc. (I and II) Biochemistry.
4. Prof. Sohoni Prize: M.Sc. (I and II) Botany.
5. J. V. Sulibhavi Prize: M. Sc. (Research) Physical Chemistry.
6. Prof. K. M. Joshi Memorial Prize: M. Sc. Physical Chemistry.
7. Dr. N. B. Laxmeshwar Prize: M. Sc. (I and II) Physical Chemistry.
8. Nadkarni Memorial Prize: Ph. D. student of merit who has passed M.Sc. (by Papers) from the Institute of Science.
9. Prof. B. C. Haldar Memorial Prizes: M.Sc. (I and II) Inorganic Chemistry, M.Sc. (I and II) Analytical Chemistry, M.Sc. (II) Environmental Science
10. Nadkarni Prize: M. Sc. Inorganic Chemistry.
11. Prof. V. S. Darshane Prize: M.Sc. (II) Solid State Chemistry, M.Sc. (I) Environmental Science.
12. Prof. B.C. Haldar Memorial Research Grant: M.Sc. By Research / Ph. D. Inorganic Chemistry.
13. H. V. Hirve Memorial Prize: M. Sc. (by Research) Organic Chemistry.
14. Prof. K. V. Katti Prize: M.Sc. (II) Inorganic Chemistry.
15. R. N. Usgaonkar Memorial Prize: Analytical Chemistry.
16. Dr. J. R. Merchant Memorial Postgraduate Prize: Organic Chemistry.
17. AMI Institute of Science Mumbai Unit Prize: M. Sc. (II) Microbiology.
18. Motiram Sampat Patil memorial Prize: M.Sc. (I) Physics.
19. Jaibai Motiram Patil Memorial Prize: M. Sc. (II) (for a lady student securing highest marks) Physics.

20. M.V. Bhagwat Prize: M. Sc. Physics
21. Sekar Srinivasan Prize: M. Sc. (I and II) Mathematics.
22. Smt. Tarabai Karandikar Prize: M. Sc. Zoology.
23. Dr. S. A. Suryawanshi Prize: M.Sc. (I) Zoology.
24. Smt. Vijaya S. Suryawanshi Postgraduate Prize: M.Sc. (II) (For an Institute lady student securing highest number of marks at the M.Sc. (II) University examination from all subjects).

Placement Cell

The Institute has a Students' Guidance and Placement Cell to provide guidance and information on various avenues for higher studies and employment options. The Placement Cell of the Institute maintains a database of the students and helps to find them jobs and placements after completion of their course. Campus interviews are also conducted in the Institute as per the requirement of industrial establishment on their approach.

Alumni Association

The Alumni Association of the Institute has an array of outstanding members who have established themselves in different walks of life and hold distinguished posts in research as well as various industries. The alumni members are in touch with the Institute providing support and feedback to the Director and faculty members in order to strengthen the existing departmental activities. The Alumni Association of the Institute also has been actively conducting various activities in the form of lectures, workshops, debates for benefit of the students. The Association has sponsored many scientific programmes, research projects and invited lectures on Frontiers of Science. These lectures and workshops enable the students to establish a rapport with eminent personalities who have already made their mark in various fields. It offers financial assistance to several needy and deserving students. It sponsors seminars, elocution and debate competitions, Research Scholars' Meet etc. The Alumni Association also generously rewards the students for their performance during the Annual Gathering to encourage the overall development of the students.

Academic visits

Academic visits to various industries and research institutions are arranged for the benefit of students. This exposes them to the emerging areas of research, various avenues available to them for further studies or career prospects while providing insights into the prospects and job opportunities available. Excursions are arranged by the Departments of Biotechnology, Botany, Environmental Science and Zoology.

Annual Magazine

The annual magazine of the Institute of Science publishes original articles written by students with prizes for the best articles and cover design. It also highlights the various curricular, co-curricular and extracurricular achievements of the students.

Women Development and Women Grievance cell

The Institute is committed to the progress and welfare of lady- students. There is a Women Development and a Women Grievance cell, which is very active in resolving the problems.

PROMOTION OF RESEARCH

The endeavor to carry out research has resulted in faculty members being actively engaged in various research based activities. The Golden Jubilee Trust Fund of Institute of Science takes pride in mentoring and assisting the students towards excellence in research. Financial assistance is provided to both faculty and students for participating in national and international conferences, symposia, workshops etc. At present, there are 25 Ph.D. guides in the Institute and an almost equal number of guides for M.Sc. (by research). The faculty members and students have published 736 Research papers since 2008 and two patents have been filed to date. There are nine major ongoing research projects in the Institute sponsored by CSIR, UGC and Ministry of Earth Sciences.

Collaborations

Faculty members collaborate with several research Institutes, Universities, National and International laboratories like:

International bodies

USA (University of Virginia)

Taiwan (National Chung-Cheng

University) Mauritius (University of

Mauritius) Portugal (University of Aveiro)

Taiwan, Academia Sinica

Taiwan, National Tsing-Hua University

Taiwan, National Taiwan University

Japan, Takusima University

BIO-FD and C Yeonsu-gu 406-840, INCHEON, S. Korea

National bodies

Dr. B. A. M. University, Aurangabad

S. R. T. M. University, Nanded

Solapur University, Solapur

Shivaji University, Kolhapur

Vidarbha Institute of Science and Humanities,

Amravati IUC-DAEF, Indore

University of Pune, Pune

NCL, Pune

I. I. T. New Delhi

I. I. T.

Mumbai

BARC,

Mumbai TIFR,

Mumbai CIFE,

Mumbai

MOUs have been signed with Research Institutions like BARC, ICT, CIFE, TIFR, RCF and industries like Sparkler Ceramics and NGOs like Pancham Aquaculture, Malkolak Knowledge Centre, Hyderabad etc.

Workshops, Seminars and Symposia

With a view of imbibing research culture, various workshops, seminars and symposia are conducted by the Institute on regular basis to motivate students to develop a scientific temperament. The Departments are encouraged to invite distinguished scientists to their laboratories, for special lectures and/or collaborative research. Some of the eminent scientists who have visited Institute are:

- Padma Vibhushan Dr. Anil Kakodkar, Chairman, Rajiv Gandhi Science and Technology Commission, Government of Maharashtra
- Padmashree Dr. Srikumar Banerjee, Chairman, Atomic Energy Commission, Government of India.
- Dr. Rajendra Singh, Water Man of India.
- Prof. H. A. Ranganath-Director NAAC.
- Dr. Sanjeevan Nair, Director, Centre for Marine Living Resources and Ecology, Kochi.
- Prof. G. D. Yadav Honorable V. C., ICT, Mumbai.
- Dr. M. M. Salunkhe, Vice Chancellor, Central University, Rajasthan.
- Dr. V.V. R. Reddy, Chairman, BRNS.
- Dr. Shubha Tole, TIFR.
- Prof. Rita Mulherkar, ACTREC.
- Prof. V. D. Sharma, IIT, Mumbai.
- Dr. Cecilia Tortajada, President, Third World Centre for Water Management, Atizapan, Mexico.
- Dr. Dilip Patil, Professor, IISc, Bangalore.
- Dr. Shriram Abhyankar, Perdue University
- Dr. Sharad Sane, IIT, Mumbai
- Dr. Nitin Nitsure, TIFR, Mumbai
- Dr. Martin Kreuzer, University of Passau, Germany

Research Scholars' Meet

Research Scholars' Meet (RSM), an annual feature of the Institute, encourages the young and budding scientists and provides a platform for M.Sc. and Ph.D. students to present their Research work among their fraternity and peers providing them a platform to hone their presentation skills.

CONSULTANCY

Consultancy services are implemented as per the Resolution of Government of Maharashtra. The departments at the Institute render consultancy services as per the expertise available. To cite a few examples:

Name of the Department	Services offered
Botany	Instrumental analysis, involving HPTLC, HPLC, Particle size analyzer.
Chemistry	Instrumental analysis, involving NMR, GC-MS, XRD, TG-DTA, IR.
Microbiology	Antimicrobial testing, Experimental design.
Zoology	Instrumentation analysis and Aquaculture.
Physics	SEM, XRD, PL and XRD

GENERAL INFORMATION

Office hours

The College Office shall ordinarily be open on all the working days between 10.00 a.m. and 5.30 p.m. All cash transactions will be attended to between 11.00 a.m. and 1.00 p.m. The office will remain closed on the second and fourth Saturday of every month and on Government holidays.

Holidays

The Institute shall remain closed on:

- Sundays and public holidays as declared by the Government;
- Holidays prescribed by the University both for the long vacations and short breaks for the Ganapati festival and Christmas.

Rules and regulations for railway concession

1. Students will be issued railway concession forms for Season tickets from the station nearest to their residence and Churchgate Station/Chhatrapati Shivaji Terminus. Residential address given on the admission form will be taken as valid for this concession. **It cannot be changed during the course of the year.**
2. Long journey Railway concession will be issued to students to visit their native place, if it is declared in their application forms.

Golden jubilee trust fund

In order to commemorate Professor B C Haldar's yeoman contribution and outstanding achievements, Professor B C Haldar Memorial fund committee was formed in 1983 by his research student to raise a fund in his honour and memory the fund was proposed to utilize to perpetuate professor B C Haldar's memory by instituting annual Memorial lectures, prizes at post graduate levels, grant to research students, etc.

Discipline of the institute

The institute attaches great importance to discipline and the same must be scrupulously observed by the students. Failure to comply with any of the rules, regulations or requirements notified from time to time will lead to strict disciplinary action.

- All students are answerable to the director and members of the staff for their conduct in the institute premises.
- Insubordination, abuse language, misbehaviour or conduct can lead to the dismissal of a student.
- Disfiguring walls, doors, windows and fitting or breaking furniture and such other

things is breach of discipline and will be punishable as such.

- Use of mobile phones and other electronic and communication devices is strictly prohibited in the premises of the institute.
- **Smoking, tobacco chewing, use of drugs etc. is strictly prohibited in the premises of the institute.**
- No Picnics, social excursions or tour shall be arranged without the prior written permission of the Director and the consent of the Parents/Guardians. If students join an unofficial picnic or tour the Institute shall not be responsible for anything that happens in the picnic tour.

Anti-ragging measures

Ragging is strictly prohibited in the college premises and outside. Students indulging in ragging will be punished as per the "Maharashtra prohibition of ragging Act, 1999 (Mha. XXXIII of 1999) published in Maharashtra government gadget on 15th may 1999". Such students will also be expelled from the college and F.I.R will be lodged with the police against them. Moreover, it will be mentioned in the college leaving certificate of such students that they are expelled because of their indulgence in ragging. Students with the previous record of ragging will not be admitted to this Institute.

Internal complaint committee

As per "Sexual Harassment of Women at workplace (Prevention Prohibition and Redressal) Act" passed by the Parliament of India in 2013 a committee is constituted in this Institute comprising of senior female faculty members, student and female lawyer.

Any female employee or students have the right to file complaint concerning any harassment against male student or employee as the case may be

As per Acts guidelines all complaints will only be accepted in writing and signed by the complainant. The identity of complainant will be kept confidential.

SC, ST and OBC Cell

To address the grievances rose of the SC, ST and OBC students the above cell is active.

Programmes Offered In The Institute of Science

M.Sc.

Subject	Specialization	Intake
Biochemistry		20
Biotechnology		20
Botany	Molecular biology, Cytogenetics and Biotechnology, Environmental Botany and Biotechnology, Plant Physiology and Biochemistry	20
Chemistry	Analytical, Inorganic, Organic. Physical	80 (20x4)
Data Science	Finance and Supply Chain	40
Environmental Science		20
Mathematics		40
Microbiology		20
Physics	Solid state physics, Solid state electronics, Applied Electronics, Material Science	40
Zoology	Endocrinology, Oceanography, Fishery and Aquaculture	20
Total		320

Ph.D. (Sc)

Ph.D. programmes are available in different branches and depending upon the available vacancies. The details of specialization, names of guides and their areas of research, seats available, procedure of admission, etc. is available on the Institute Website.

Proposed Schemes of NEP-2020 for M.Sc. in Various Subjects

Table 3
Dr. Homi Bhabha State University, Mumbai.
Proposed structure for Two Year PG Program (M.Sc.) Degree

Level	Semester	Major		Minor	OE	VSC, SEC (VSEC)	AEC, VEC, IKS	OJT/FF	Cum. Cr/Sem	Degree/Cum. Cr.
		Mandatory	Elective							
6.0	I	DSC1 -1 (4+2)	DSE1 -1 (4+2)	RM (4)	--	--	--	--	22	44 PG Diploma in Discipline
		DSC1 -2 (4+2)								
	II	DSC1 -3 (4+2)	DSE1 -2 (4+2)	--	--	--	OJT/FP (4)	22		
		DSC1 -4 (4+2)								
Cum Cr.		24	12	04				04	44	
Exit Option: Award of PG Diploma in Discipline with 44 credits OR Continue with Discipline.										
6.5	III	DSC1 -5 (4+2)	DSE1 -3 (4+2)					RP (4)	22	88 PG Degree in Discipline
		DSC1 -6 (4+2)								
	IV	DSC1 -7 (4+2)	DSE1 -4 (4+2)					RP (6)	22	
		DSC1 -8 (4)								
Cum Cr.		46	24	04				14	88	
Two-year PG Degree in Discipline with 88 Credits.										

Abbreviations:

Generic/ Open Electives: OE; Vocational Skill and Skill Enhancement Courses: VSEC; Vocational Skill Courses: VSC; Skill Enhancement Courses: SEC; Ability Enhancement Courses: AEC; Indian Knowledge System: IKS; Value Education Courses: VEC; OJT: On Job Training: Internship/ Apprenticeship; Field projects: FP; Co-curricular Courses: CC; Community Engagement & Service: CEP; RM: Research Methodology; Research Project: RP

** OJT/FP: Student has to earned the requisite 04 credits of on-the-job training (OJT) / Field Project (FP) during summer break, after completion of the second semester of the first year in the respective Major Subject.

Admission to M.Sc. Program

The Institute of Science (I. Sc.), which is the Lead Institute of Dr. Homi Bhabha State University, has ten Departments, viz. Biochemistry, Biotechnology, Botany, Chemistry (Analytical, Inorganic, Organic and Physical), Data Science, Environmental Science, Mathematics, Microbiology, Physics and Zoology. I. Sc. Offers independent post-graduate

teaching as well as research leading to Master's and Doctoral degrees. The I. Sc. has intake capacity of 320 seats for Post-Graduation courses and 298 seats for Research Programmes and this gives a distinguished status to the I. Sc. Amongst the Institutions of higher education across the country. Choice based credit system has been implemented for the post-graduate courses as per the guidelines of University Grants Commission.

Admission Procedure

Candidates graduated from state of Maharashtra Universities (Non-Agriculture) are eligible for M. Sc. part I admission to Dr. Homi Bhabha State University

For admission to Environmental Science M. Sc. part I course a separate common entrance test will be conducted by the I. Sc.

Registration for the Admission process will be online through the I.Sc. website (www.iscm.ac.in) or HBSU website (www.hbsu.ac.in). The processing fees of Rs.300/- (Rupees Three Hundred Only) excluding Data Science and Environmental Science. For Data Science and Environmental Science the registration fees including entrance test is Rs. 450/- (Rupees Four Hundred Fifty Only). Applicants will fill the form online through the I. Sc. website with **attaching clearly visible and readable images/pdfs** of following certificates wherever necessary.

1. Address proof and Birth Date proof
2. Mark-sheets of B. Sc. degree (Semester I to VI) of University examination and H. Sc./XIIth or equivalent examination.
3. Caste certificates, all candidates claiming the reservation for backward classes should **produce a caste certificate at the time of Counselling cum Admission rounds**. The "Caste Certificate" should be in the name of the candidate and issued by the Executive Magistrate / Metropolitan Magistrate in Maharashtra State clearly mentioning the category of the candidate. Caste certificate should clearly specify that the caste is considered as backward class in the state of Maharashtra, failing which, the candidate will not be able to claim for that category and shall be treated as **GENERAL** category candidate, during entire admission process.
4. **Non Creamy layer certificate**, the candidates belonging to NT-2, NT-3, OBC, SBC, SEBC and EWS categories should produce "Non Creamy Layer Certificate" (**NCL**) issued by a Sub Divisional Officer / Deputy Collector of the district in addition to the

caste certificate. In case candidates are not able to produce the **Non Creamy layer certificate at the time of admission rounds**, candidates will be treated as **GENERAL** category candidates. The “**Non Creamy Layer Certificate** ” **should be issued for the financial year in which admission is sought.**

5. Gap certificate, if any (affidavit) in case of break in academic career.
6. Candidates belonging to the universities other than HBSU are required to obtain approval certificate of the eligibility and then submit migration certificate in time after securing the admission.
7. The forms incomplete in any respect will be disqualified and will not be considered for admission.

The provisional merit list will be displayed on the website of the I. Sc. (www.iscm.ac.in) as well as in the Institute of Science. Any discrepancy in the merit list has to be brought to the notice of the concern Head Of Department in writing. Final merit list will be displayed after addressing the discrepancies. **Eligible candidates should remain present for counselling cum admission rounds in the concern department on the schedule time and date.**

Admission schedule will be displayed on the I. Sc. website (www.iscm.ac.in) as well as in the Departments .

Admissions will be as per merit list, (with due respect to the reservation policy laid down by the Government of Maharashtra) after the verification of required documents.

At the time of **Counselling cum Admission** candidates has to produce all necessary **certificates in original. Presence of the candidate and the parent, at the time of admission is mandatory.**

Fees Structure (Aided Program - Biochemistry, Botany, Chemistry, Mathematics, Microbiology, Physics and Zoology)

Class	Govt. Share	Univ. Share	Lab Fees	Lib Fees	Gym Fees	Internet Fees	Project Fees	Other Fees (including Registration Fees)	Total
M.Sc. I	460/-	540/-	6000/-	1000/-	400/-	500/-	2000/-	2245 + 800 (Deposit) = 3045/-	13,945/-
M.Sc. II	460/-	540/-	6000/-	1000/-	400/-	500/-	--	1370/-	10,270/-
Ph. D.	1500/-	2500/-	12000/-	1000/-	400/-	500/-	--	1370+ 800+1025 (Deposit) = 3195/-	21,095/-

***All figures in Rupees**

****Fee structure approved by Dr Homi Bhabha State University viod letter dated 03/10/ 2019**

Details of other fees (In Rs.)

Description	Total (Rs.)
Extracurricular Activities	250/-
Magazine	100/-
Group Insurance	40/-
University Sports and Cultural activity	30/-
Utility	250/-
Vice Chancellor fund	20/-
Identity Card	50/-
Student welfare	50/-
Development Fees	500/-
E-Suvidha	50/-
Disaster Relief fund	10/-
E-charges	20/-

Description	Total (Rs.)
Registration form fee	25/-
Registration fee for M. Sc. I only (Other than Environmental Science and Biotechnology)	850/-
Registration fee for M. Sc. I only (Environmental Science and Biotechnology)	1000/-
Total of other fees including Registration Fees (Other than Environmental Science and Biotechnology)	2245/-
Total of other fees including Registration Fees (Environmental Science and Biotechnology)	2395/-
Details of refundable deposits (In Rs.)	
Caution money	150/-
Library deposit	250/-
Laboratory deposit	400/-
Total	800/-
Details of fees (In Rs.) for SC, ST, NT, OBC, SBC students (M. Sc. I)	
Caution money	150/-
Library deposit	250/-
Laboratory deposit	400/-
Registration form fee	25/-
E-Suvidha	50/-
Vice Chancellor fund	20/-
Identity Card	50/-
Group Insurance	40/-
Student welfare	50/-
Disaster Relief fund	10/-
Registration fee for M. Sc. I only (Other than Environmental Science and Biotechnology)	850/-
Registration fee for M. Sc. I only (Environmental Science and Biotechnology)	1000/-
Total of fees payable by SC, ST, NT, OBC, SBC students (Other than Environmental Science and Biotechnology)	1895/-
Total of fees payable by SC, ST, NT, OBC, SBC students	2045/-

Description	Total (Rs.)
(Environmental Science and Biotechnology)	
Details of fees (In Rs.) for SC, ST, NT, OBC, SBC students (M. Sc. II)	
Identity Card	50/-
Group Insurance	40/-
Student welfare	50/-
Vice Chancellor fund	20/-
E-Suvidha	50/-
Disaster Relief fund	10/-
Total	220/-

Fees Structure (Un-Aided Program – Biotechnology & Environmental Science)

Table 1A: MSc. Part I

Purpose	Fee after revision (to be implemented from 2022-23) (In Rs)	
	for General category	for SC/ST/OBC/ NT/SBC category
Tuition Fee	23000	-
Laboratory Fee	22000	-
Library Fee	1000	-
Gymkhana Fee	400	-
Internet Fee	500	-
Project Fee	2000	-
Other Fees (including Registration)	2395*+800** (Deposit) = 3195	1245*+800** (Deposit) = 2045
Total	52095	2045

***Table 1B: Other Fees Details**

Purpose	Fee Amount (In Rs)	
	for General category	for SC/ST/OBC/ NT/SBC category
Extracurricular activities	250	-
Magazine	100	-
Group Insurance	40	40
University sports & cultural activities	30	-
Utility	250	-
Vice Chancellor Fund	20	20
Identity Card	50	50
Student Welfare	50	50

Development Fees	500	-
E-Suvidha	50	50
Disaster Relief Fund	10	10
E-charges	20	-
Registration Form Fee	25	25
Registration for M.Sc. I only	1000	1000
Total	2395	1245

****Table 1C: Details of Deposits**

Purpose	Amount (In Rs)	
	for General category students	for SC/ST/OBC/ NT/SBC category students
Caution Money	150	150
Library Deposit	250	250
Laboratory Deposit	400	400
Total	800	800

Table 2A: M.Sc. Part II

Purpose	Fee after revision (to be implemented from 2023-24) (In Rs)	
	for General category students	for SC/ST/OBC/ NT/SBC category students
Tuition Fee	23000	-
Laboratory Fee	22000	-
Library Fee	1000	-
Gymkhana Fee	400	-
Internet Fee	500	-
Other Fees (including Registration)	1370*	220*
Total	48270	220

***Table 2B: Other Fees Details**

Purpose	Fee Amount (In Rs)	
	for General category students	for SC/ST/OBC/ NT/SBC category students
Extracurricular activities	250	-
Magazine	100	-
Group Insurance	40	40
University sports & cultural activities	30	-
Utility	250	-
Vice Chancellor Fund	20	20
Identity Card	50	50
Student Welfare	50	50
Development Fees	500	-
E-Suvidha	50	50
Disaster Relief Fund	10	10

E-charges	20	-
Total	1370	220

Fees Structure (Un-Aided Program – Data Science)

M.Sc. I

Sr.no.	Fee head	Amount
1	Govt. Share	0.00
2	Univ. Share	0.00
3	Lab fees	0.00
4	Lib fees	500.00
5	Gym fees	0.00
6	Internet fees	500.00
7	Project fees	0.00
8	Extracurricular activities	0.00
9	Magazine	150.00
10	Group insurance	100.00
11	University sports and cultural activity	50.00
12	Vice chancellor fund	50.00
13	Identity card	0.00
14	Student welfare	50.00
15	Development fees	0.00
16	E-suvidha	0.00
17	Disaster relief fund	20.00
18	E-charges	0.00
19	Registration form fee	0.00
20	Registration fee for m. Sc.	0.00
21	Caution money	1,000.00
22	Library deposit	500.00
23	Laboratory deposit	1,000.00
24	Utility	250.00
25	Examination fees sem 1	1750.00
26	Examination fees sem 2	1750.00
27	Marksheet fee	200.00
28	Excess fee	0.00
29	College & library i - cards	100.00

30	Gymkhana / extra curricular fee	500.00
31	Computer lab fee	500.00
32	College development fee	500.00
33	Application prospectus/form fee	0.00
34	Application online charges - pg	0.00
35	Ashwamedh fees	50.00
36	Alumni association fee	100.00
37	Eligibility fee - indian students	500.00
38	Computer lab deposit	1,000.00
39	Tuition fee	120,000.00

Grand Total: 131,120.00

M.Sc. II

Sr.no.	Fee head	Amount
1	Tuition fee	120,000.00
2	Lab fees	0.00
3	Lib fees	500.00
4	Internet fees	500.00
5	Project fees	0.00
6	Magazine	150.00
7	Group insurance	100.00
8	University sports and cultural activity	50.00
9	Vice chancellor fund	50.00
10	Student welfare	50.00
11	E-suvidha	0.00
12	Disaster relief fund	20.00
13	E-charges	0.00
14	Caution money	0.00
15	Library deposit	0.00
16	Laboratory deposit	0.00
17	Utility	250.00
18	Examination fees sem 3	1750.00
19	Examination fees sem 4	1750.00
20	Marksheet fee	200.00
21	College & library i - cards	100.00

22	Gymkhana / extra curricular fee	500.00
23	Computer lab fee	500.00
24	Convocation fee	1000.00
25	College development fee	500.00
26	Application prospectus/form fee	0.00
27	Application online charges - pg	0.00
28	Ashwamedh fees	50.00
29	Alumni association fee	100.00
30	Eligibility fee - indian students	0.00
31	Computer lab deposit	0.00

Grand Total: 1,28,120.00

Students should note that in case of rejection of their application for fee waiver by the Department of Social Welfare, Government of Maharashtra, they will be obliged to pay the entire share of their fees.

PROGRAM COORDINATORS

Biotechnology – Professor Rupendra Jadhav (biotech@iscm.ac.in)

Data Science – Professor Selby Jose (datascience@iscm.ac.in)

Environmental Science – Professor Gayatri Barabde (evs@iscm.ac.in)

PAYMENT OF FEES

The general merit list of each subject is displayed on notice board of the respective Departments and a copy may be made available on the website “www.iscm.ac.in.” Fees need to be paid immediately once the admission is granted via **online through the website www.iscm.ac.in**. All the foreign students are required to pay the fees equal to five times of that paid by the Indian students.

Ph. D. PROGRAMMES

The Ph. D. admissions will be as per the rules and regulations laid down by Dr. Homi Bhabha State University. CSIR/UGC fellowships and State Government scholarships are also available for Ph. D. students. The supervisor in concern subject, number of seats available and the thrust areas of research are as follows:

Sr. No.	Names of the available Supervisor	Thrust areas of Research
DEPARTMENT OF BOTANY (20)		
1	Dr. Rajesh W. Raut	Cytogenetics and Nano Biotechnology
	Dr. Abhay Narayan Salve	Phytology and ecology
	Prof. Aparna Saraf	Phytochemistry, Standardization of Medicinal Plant, Plant Physiology and Biochemistry
	Prof. Umesh B. Kakade	Aerobiology, Environmental Biotechnology
DEPARTMENT OF CHEMISTRY		
Analytical Chemistry (30)		
	Prof. Gayatri Barabde	Solvent extraction, Pharmaceutical Chemistry, Nanotechnology
	Prof. Sushama Ambadekar	Environmental Chemistry and Pharmaceutical Science
	Dr. Vishal Banewar	Synthetic Organic Chemistry
Inorganic Chemistry (40)		
	Prof. Patil Raju Maruti	Solid State -, Co-ordination -, Nuclear and Radio Chemistry, Electro Analytical -, Environmental Chemistry, Solvent Extraction.
	Dr. Bhimrao Patil	Nanomaterials
	Dr. Vikas Bangade	Synthetic heterocyclic chemistry
Organic Chemistry (45)		
	Prof. Ratnamala Sonawane	Bio-organic-, Heterocyclic-, Medicinal Chemistry
	Prof. Vandana Mohanrao Kamble	Catalysis, Heterocyclic Chemistry, Methodology, Organometallic Reactions, Green Chemistry.
	Dr. Shubhangi Patil	Cellulose Nanofibers and its functional modification, Monometallic and bimetallic nano catalysts, organic synthesis.
Physical Chemistry (20)		
	Prof. Y. S. Malghe	Nanomaterials processing and applications, Electroceramics, Soft Materials, Photocatalysis, Dielectric and Magnetic Materials, Catalysis and Thermal Analysis

	Dr. Ravibabu A Tayade	Physico-organic Chemistry, Photochromic material, Thermodynamics and Computational Chemistry
DEPARTMENT OF MATHEMATICS (07)		
	Prof. Selby Jose	Commutative Algebra, Classical K-Theory
DEPARTMENT OF MICROBIOLOGY (12)		
	Prof. Ulhas K. Patil	Enzymology and Pharmaceutical Microbiology
	Prof. Jadhav Rupendra	Medical Microbiology and Epidemiology
DEPARTMENT OF PHYSICS (60)		
	Prof. Ajay Chaudhari	Computational material Science, Hydrogen storage, NLO
	Prof. Rohidas Kale B	Solar cell, Photoluminescence, Photocatalysis and Material Science
	Prof. Kulkarni Shrinivas Bhausaheb	Material Science/Magnetic Material Synthesis, SSP
	Prof. Pravin Sadashiv More	Composite Semiconducting Material (polymer/ inorganic resistive material) Synthesis, Semiconducting Material Application Study, Special references to gas sensor.
	Dr. Anamika Kadam	Material Science, Thin Film, Super Capacitor, Gas Sensor, Solar cells and Electrochromism
	Dr. Mahadev Sonawane	Dielectric properties of materials, Modeling and simulation, Materials for super capacitor
	Dr. Kiran Sonawane	Fuel Cell, Solar Cells, Energy storage materials, Nanoscience and Nanotechnology
DEPARTMENT OF ZOOLOGY (46)		
	Dr. Shushilkumar Chaudhari	Marine fishery, Animal Physiology, Toxicology, Aquaculture, Fresh water zoology
	Prof. Varsha Andhare	Toxicology, Fishery and Parasitology
	Dr. Manisha N. Kulkarni	Biodiversity and Endocrinology
DEPARTMENT OF BIOCHEMISTRY		
	Dr. Manohar Vithalrao Padul	Plant pest interaction, Natural products, Anti-nutritional components from the plants, Protein chemistry
	Dr. Shekar B. Jadhav	Bioremediation, Bioprocesses optimization, Microbial biotechnology, Quorum Sensing, Enzymology
	Dr. Utkarsha Lekhak	Environmental Biotechnology, Bioremediation, Nano-biotechnology, Phytochemistry

DEPARTMENT OF BIOTECHNOLOGY		
	Prof. Aparna Saraf	Phytochemistry, Standardization of Medicinal Plant, Plant Physiology and Biochemistry
	Prof. Umesh Kakde	Aerobiology, Environmental Biotechnology
	Dr. Rajesh W. Raut	Cytogenetics and Nano Biotechnology
DEPARTMENT OF ENVIRONMENTAL SCIENCE		
	Prof. Gayatri Barabde	Industrial Pollution and waste water analysis
	Dr. Sushama Ambadekar	Waste water analysis, Solid waste analysis and soil analysis
	Prof. Aparna Saraf	Phytoremediation
	Prof. Umesh Kakde	Ecology, Environmental pollution and Environmental Biotechnology
	Prof. Ratnamala Sonawane	Bio-organic-, Heterocyclic-, Medicinal Chemistry
	Dr. Shushilkumar Chaudhari	Aquaculture, Biodiversity and sustainable development
	Dr. Shekar B. Jadhav	Bioremediation and micro plastic and quorum sensing
	Dr. Manisha Kulkarni	Environmental pollution and Biodiversity

After the scrutiny of the forms, eligible candidates are called for the interviews. The admissions are on the basis of merit and performance in the interview and as per the rules of the State Government and Dr. Homi Bhabha State University. Mumbai.
