


**INSTITUTE OF CHEMICAL  
TECHNOLOGY, MUMBAI**

“National Rank 6 in Atal Innovation Ranking (ARIIA)- 2021” by MHRD

<http://ictmumbai.edu.in> 

## VISION

- We shall perennially strive to be a vibrant institute with continuously evolving curricula to brighten the future of the chemical, biological, materials and energy industries of the nation, and rank amongst the very best in the world through active participation and scholarship of our faculty, students and alumni.
- We shall be creators of sprouting knowledge and design cutting-edge technologies that will have the greatest impact on society and benefit mankind at large.

## MISSION

- We shall generate and sustain an atmosphere conducive to germinating new knowledge at every available opportunity.
- The education we shall impart will enable our students to devise new solutions to meet the needs of all segments of society with regard to material and energy, while protecting the environment and conserving the natural resources.
- Our endeavors, while extending well beyond the confines of the classroom, will aim to enhance public welfare and our attempts to dissipate knowledge will spread to a greater multi- and cross-disciplinary platform to conduct research, discovery, technology development, service to industry and entrepreneurship, in consonance with India's aspirations to be a welfare state. We will team scientists and engineers with professionals in other disciplines to arrive at better solutions.
- We will provide all our students with a strong foundation to encourage them to be our ambassadors in the professional activities that they choose to undertake in service of society at national and international levels.
- Through our vision, we will serve the profession and society and strive to reach the summit as a team, and ultimately serve as role models to the younger generation.

## PLEDGE

I AM ICTian. This is my institute, I take deep pride, but without vainglory; to it I owe solemn obligations that I am eager to fulfil. I Climb These steps into a grand shrine of knowledge and portal of excellence. I am privileged to be a part of a great tradition, rich culture and ethos built by selfless services of great many individuals. I take great pride in its achievements and eminence. I will be in a company of knowledge seekers, givers and servers. It will be my endeavor to protect its reputation and legacy. I will participate in none but honest enterprise. I shall shun prejudice of all kinds and perform actions that are deemed righteous morally, ethically, professionally and legally. To my fellow I pledge, in the same full measure I ask of them, integrity and fair dealing, tolerance and respect, and devotion to the repute and dignity of our institute; with the consciousness, always, that our special expertness carried with the obligation

TO SERVE ICT, INDIA AND MANKIND WITH COMPLETE SINCERITY.

# HANDBOOK: 2025-2026



## INSTITUTE OF CHEMICAL TECHNOLOGY, MUMBAI

Mumbai | IOC Bhubaneswar | Marathwada Jalna

Category I Deemed to be University (MHRD/UGC)

Elite Status and Centre of Excellence, Govt. of Maharashtra

“National Rank 6 in Atal Innovation Ranking (ARIIA)- 2021” by MHRD

<http://ictmumbai.edu.in>

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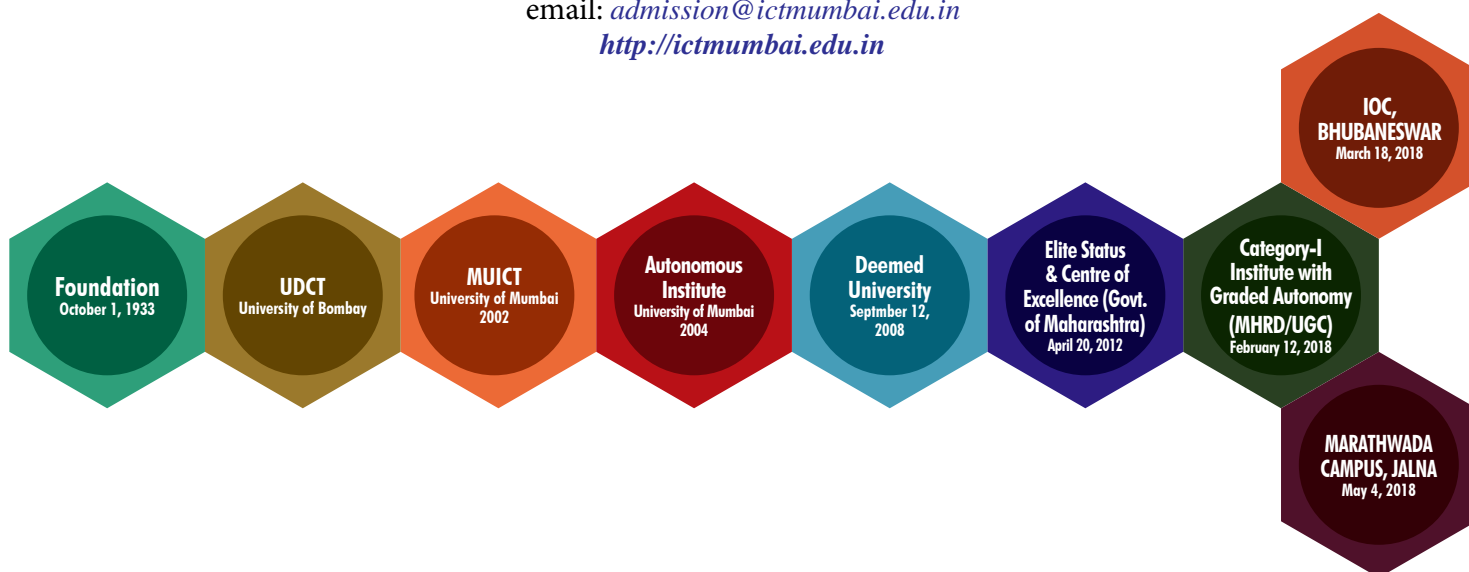
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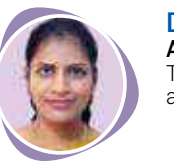
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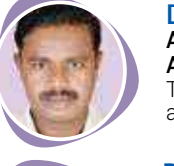


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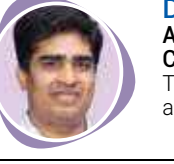
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Prof. Gogate completed B. Chem. Eng., M. Chem. Eng. and Ph.D. (Tech.) from UDCT/ICT, Mumbai, India, and is also currently associated with ICT as Professor of Chemical Engineering and Controller of Examinations. He has been actively involved in the activities of UAA for the last 10 years as a BOG member, Secretary, and currently as the Vice President. He has been spearheading the organization of annual networking events of UAA as well as managing the certificate course and Student Loan program. Prof. Gogate has also a stellar academic profile with over 400 publications, and 30000 citations and received many awards globally.



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**Hon. Secretary**

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Dr Tipanna Mariyappa is B.Sc.(Tech) plastics technologist, 1993. Batch. He has obtained his MSc.(Tech) and Ph.D.(Tech) degrees in polymer technology in 1997 and 2000 respectively from UDCT/ICT. He is selfemployed, runs a company called Chemtip Laboratories manufacturing polymer additives, and provides consultancy in turnkey projects related to specialty polymers and pigments. He is a visiting professor in polymer and surface coating engineering in ICT. He is the president of the 'Colour Society.' Dr. Tipanna M has been on the board of Governors for the last six years. He is currently the Treasurer of UAA for the 2021-2023 term and he was a team member of the chapter coordinating team, actively supporting chapter coordinator and President. He played a vital role in Organising "World Environmental Day" in coordination with the Ankleswar chapter and jubilant life science at Baruch on June 5, 2019, where Prof MM Sharma was the chief guest.



**Prof. Dr. Virendra Rathod**  
**Hon. Treasurer**

email: [vk.rathod@ictmumbai.edu.in](mailto:vk.rathod@ictmumbai.edu.in)

Prof. V. K. Rathod is a Professor of Chemical Engineering with more than 20 years of research and teaching experience. Currently, he is the Head of the Chemical Engineering Department and also the course coordinator of M.Tech. Green Technology. He has handled multiple administrative responsibilities in ICT, Mumbai, including Controller of Examination, Head Warden, Nodal officer, and Placement coordinator. He has guided 120 masters and 37 Ph.D. students. He published more than 250+ papers in international journals, 16 book chapters, and one Indian patent to his credit. He received multiple awards, including Young Associate, Maharashtra Academy of Science award, Fellow of Maharashtra Academy of Sciences, Fellow Indian Chemical Society, and Hindustan Lever Biennial award for the most outstanding Chemical Engineer. His research interest includes separation, catalysis, extraction of natural ingredients, process intensification, enzyme catalysis, enzyme immobilization, nanotechnology, and wastewater treatment.



**Dr. Sanjay Mehendale**  
**Imm. Past President**

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Ex-Officio Member as Imm. Past President

Vice-President, Ion Exchange (India) Ltd.

Ph.D. 1986 - Textiles



**Dr. Dhananjay Deulgaonkar**

email: [deulgaonkar@gmail.com](mailto:deulgaonkar@gmail.com)

Dr. Dhananjay Deulgaonkar obtained his B.Tech., M. Tech and Ph.D. Tech degrees from ICT/UDCT Mumbai. After completing his Ph. D. he joined BASF and since then has been working in BASF in various roles and responsibilities. He has completed a diploma in Industrial safety and a diploma in environmental law and policy as well. He has varied experience in BASF in fields like EHS, Sustainability, Quality Assurance, Testing, Technical Service, and R & D. He is currently working as Head EHS for BASF for PAN India Operations which includes 9 manufacturing locations, 3 R&D centers, and 35 external warehouses.



**Dr. Hemchandra Chaudhari**

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Hemchandra Chaudhari has completed his B.Pharm from Mumbai Education Trust (MET) Institute of Pharmacy, Bandra Mumbai; his M.Pharm in Medicinal Chemistry and Ph.D. Tech in Pharmaceutical Chemistry from the Institute of Chemical Technology, Matunga, Mumbai. He started his academic career as a lecturer at the Oriental College of Pharmacy, Sanpada, Navi Mumbai. He joined as an Assistant Professor in the Department of Pharmaceutical Sciences and Technology at the Institute of Chemical Technology Mumbai, in March 2015 and continues to be in that position. His area of Interest is the Design of Pharmacological active molecules by molecular modeling using various drug design modules like Schrodinger's Phase for Pharmacophore, Glide for drugreceptor interaction, and Qikprop for ADME predictions. Synthesis of design molecules by Conventional or greener method. Evaluation of synthesized molecules for suitable pharmacological activity. Process development for API and intermediates. Chemical transformation by novel methods. Impurities synthesis and screening for biological activity.



## OFFICE BEARERS



### Dr. Hitesh Pawar

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Dr. Hitesh Pawar is presently working as an Assistant Professor, at DBT-ICT Centre for Energy Biosciences, Institute of Chemical Technology, Mumbai. He is leading the "Green Chemistry and Catalysis" research group at DBT-ICT Centre for Energy Biosciences. His research is majorly focused in the fields of chemical and biochemical catalysis, green chemistry, biofuels, hydrogen production, municipal waste treatment, sewage/industrial effluent treatment, downstream processing and separation sciences, etc. His research group has developed several patented processes/technologies for the synthesis of bio-based chemicals, municipal waste treatment, industrial effluent treatment, and resource recovery from municipal waste. Presently, several ongoing pilot-scale demonstration projects based on patented processes/technologies developed by his research group are under execution.



### Mrs. Maharukh Rustomjee

email: [maharukhrustomjee@gmail.com](mailto:maharukhrustomjee@gmail.com)

Mrs. Maharukh Rustomjee is a distinguished scientist, renowned for her exceptional contributions to the pharmaceutical industry and her unwavering dedication to scientific innovation. With over 35 years of experience, Maharukh has spearheaded groundbreaking research and developed transformative products that have revolutionized the field. Her visionary leadership and pioneering spirit have propelled her to the forefront of the Indian and international healthcare communities. As the Founder, Chief Scientist, and Managing Partner of Amaterasu Lifesciences LLP, Maharukh has redefined the industry by forging a unique model of collaboration between industry and academia. Through strategic partnerships with leading academic institutes, she has fostered an environment that nurtures groundbreaking research and facilitates the seamless translation of scientific discoveries into practical applications. Her efforts have bridged the gap between theory and practice, leading to transformative advancements in healthcare.



### Mr. Milind Talathi

email: [mmt.1@rediffmail.com](mailto:mmt.1@rediffmail.com)

Mr. Milind Talathi obtained a degree in chemical engineering in 1983 from UDCT/ICT. Starting his career at Rallis India, he shifted to Century Enka where he rose to become the President (Operations). This was followed by a short stint at GFL as COO and later he has been a Whole Time Director at ELANTAS Beck India Ltd. He has been a member of IChE, Pune Chapter, and was also the Chairman for a two-year period. Similarly, he has been a member of UAA, Pune Chapter and presently is the Chairman, of UAA Pune Chapter. His Vision – to improve networking



### Dr. Navnath Hatvate

email: [navnath711@gmail.com](mailto:navnath711@gmail.com)

Dr. Navnath Hatvate is currently working as an assistant professor at the Institute of Chemical Technology, Marathwada Campus, Jalna. Dr. Hatvate completed a Master of Pharmacy and PhD from ICT Mumbai, in 2014 and 2020, respectively. During his PhD curriculum, Dr. Hatvate served as a general secretary (GS) of Hostel5 and a secretary of Yuvam-2017. As a member candidate for UAA, he aims to enthusiastically participate, promote, and project the goals and activities of UAA. Also, he will like to take the initiative and participate in the different engagements and programs of UAA during his term.



### Mr. Nilesh Lele

email: [nileshlele@gmail.com](mailto:nileshlele@gmail.com)

Mr. Nilesh Lele is a young dynamic technocrat with over 20 years of experience in varied fields in India and in USA. He has been a serial entrepreneur and built businesses in beverages and fruit wines. Currently, he is the co-founder of Foodtech Pathshala, which is into e-learning and has already trained 10,000+ learners since Jan 2022. He is the Founding Partner of RampUp Advisory LLP, which is into M&A Advisory and Startup Funding. The company is closely associated with 100+ startups and helps them raise funding through debt & equity. Currently, he is serving as: Secretary, UDCT Alumni Association (2019 – current), Vice President of Association of Food Scientists & Technologists India (AFSTI) HQ President, Chamber for Advancement of Small and Medium Businesses Mentor for Food & Beverages and Agriculture – StartUp India, DPIIT Govt. of India.



### Mr. Rajeev Panse

email: [ar.athalye@ictmumbai.edu.in](mailto:ar.athalye@ictmumbai.edu.in)

Mr. Rajeev Panse is based in Pune & at present enjoying his career phase as a Life Quality Enhancer - Global Corporate Speaker & Coach. ICT & UAA Connect: B. Pharmacy in 1984. BoG member since 2013. BoG's first official Chapter Coordinator. Has revived & kept active many domestic & overseas chapters, since then. UAA Treasurer for 2 terms. Achievements: Financial Discipline & initiated UAA's Mutual Fund Investment. He takes sessions on Career (& Life) Enhancement for ICT students & is a faculty for the UAA courses for them. During Covid, conducted online Meditation sessions for UAAties.



### Prof. Shreerang Joshi

email: [shreerangjoshi@rediffmail.com](mailto:shreerangjoshi@rediffmail.com)

Prof. Shreerang Joshi is currently a Professor of Pharmaceutical Chemistry at ICT. He is also a consultant to some Indian bulk drug industries for advice on process technologies. Also a Fellow of- the Maharashtra Academy of Sciences and Indian Chemical Society. He has bagged the coveted VASVIK Award for 2019 in Industrial Research. At UAA He was Chair/Co-chair for UAA awards, for the last two years and is actively involved in classroom up-gradation and the UG instruments procurement committee. Also the convener of Manthan – the Marathi Club and Coconvener of Vortex.

## OFFICE BEARERS



### Dr. Vaishali Kulkarni

*email: vaishali.kulkarni@kbcollsciences.com*

Dr. Vaishali Kulkarni is the Founder & CEO of KBCols Sciences. She is a Ph.D. graduate in Bioprocess Technology from ICT Mumbai (Formerly UDCT Mumbai). Vaishali is a first-generation entrepreneur and has won many International and national laurels for her work in microbial colors. She recently was honored with Asia's Top 10 Sustainability Superwomen Award 2021 (by CSR Works Singapore) for driving positive change in the world through her sustainability leadership. Under her leadership, KBCols was recently awarded the Global Change Award 2023 in Sweden organized by H&M Foundation, the National Startup Award 2022 by DIPP, and FLCTD Innovation Challenge 2022 organized by UNIDO.



### Prof. Ashok Athalye

*email: ar.athalye@ictmumbai.edu.in*

Prof. Ashok Athalye is the Head of Textile Department of Institute of Chemical Technology, Mumbai and Ex-Officio BOG member (Vice President- TA)



### Mr. Dinesh Chopra

#### Co opted Member

*email: dkc2001@hotmail.com*

Mr. Dinesh Chopra has been involved with ICT AA since inception and participating in its activities held in Delhi-NCR, Mumbai and Ahmedabad regions. For the last few years, he has structured and reenergised ICT NCR Chapter and Ahmedabad Chapters by arranging meetings and has also arranged of get together of ICT Alumni, at different locations like Tirupur, Mumbai, Shanghai, Milan and Ludhiana. He is Chairman of "Industry Chemical Council-Industry Academia Committee" (ICC IAC) and working closely with Industry, Institutions e.g. ICT, IIT, Manipal University, Delhi Technical Univ. Delhi University and Govt. of India entities.



### Dr. Yatin Gadkari

#### Co opted Member

*email: yu.gadkari@iocb.ictmumbai.edu.in*

Dr. Yatin Gadkari is an Assistant Professor in Institute of Chemical Technology Mumbai Indian Oil Odisha campus Bhubaneswar



## TECHNOLOGICAL ASSOCIATION

Technological Association or TA as it is well known among the students is one of the oldest student run body for the welfare of Institute of Chemical Technology, dating its inception in 1934.

There are 8 Clubs, 1 Intra-College Festival and 3 Inter-College Festivals in the Technological Association.

Since Years TA's motto has always been Student Welfare through activities ensuring overall personality development. TA ensures that every student at the institute learns in a healthy environment giving them opportunity to showcase their talents.

The 8 Clubs of the TA are Art Club, Music Club, Manthan Club, Literary Club, Entrepreneurship Cell, Bombay Technologist, Sports Club, TEDx ICTMumbai.

The Intra-College Festival is called the FUNTECH. The 3 Inter-College Festivals are Vortex - The Chemfest (Technical Festival), Manzar (Cultural Festival), Sportsaga (Sports Festival).

The tentative dates for the Inter-College festivals are as follows:  
Manzar 2019: Jan 31 to Feb 03 2019  
Sportsaga 2019: Mar 7 to Mar 17 2019  
Vortex 2019: Oct 17 to Oct 20 2019

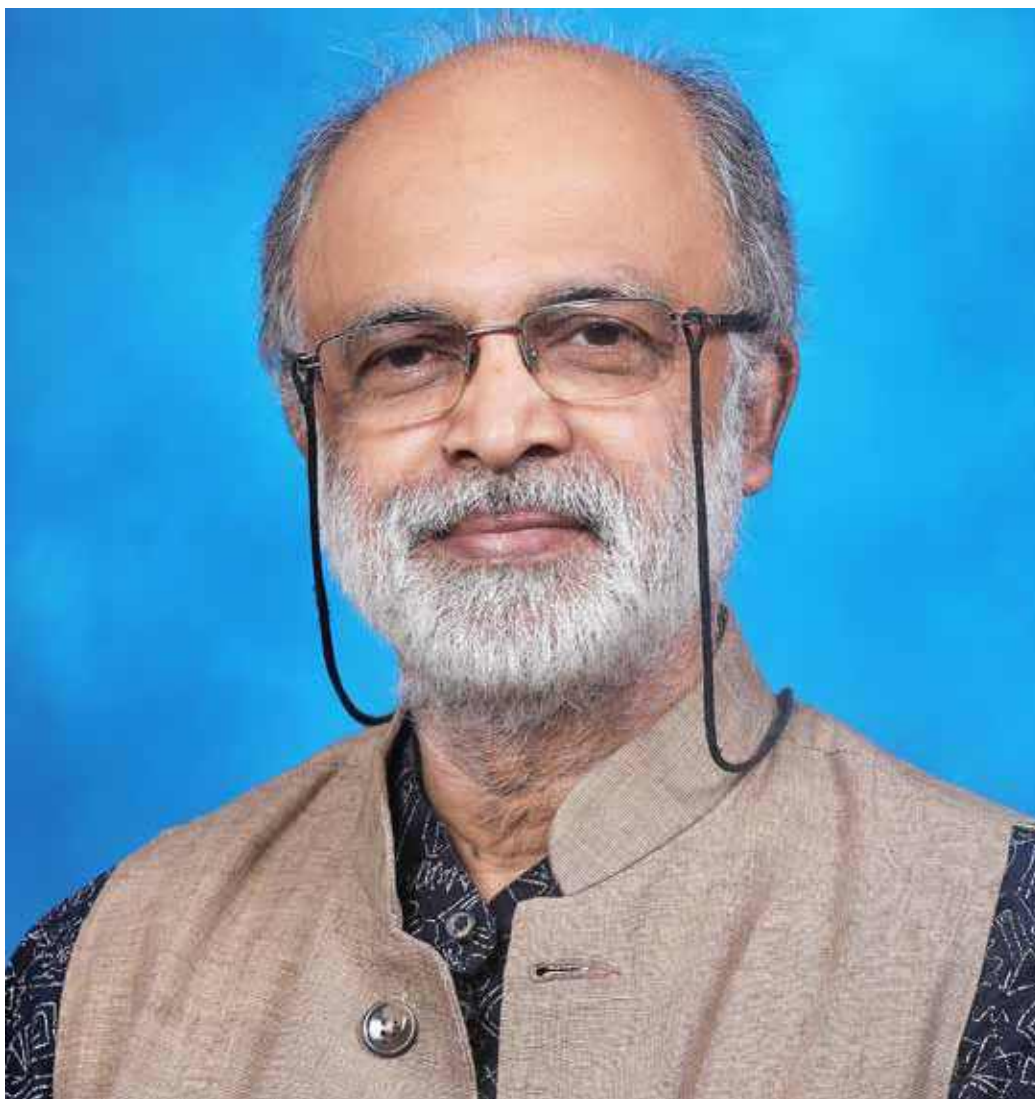


A photograph of the Institute of Chemical Technology building. The building is a multi-story structure with a prominent entrance featuring four white columns. Above the entrance, the words "INSTITUTE OF CHEMICAL TECHNOLOGY" are inscribed in large, bold, capital letters. The building is flanked by tall palm trees. The sky is clear and blue. In the foreground, there are some potted plants and a small red archway.

INSTITUTE OF CHEMICAL TECHNOLOGY

# ABOUT ICT





## **Prof. Aniruddha Bhalchandra Pandit**

*B.Tech., Ph.D.(Tech.)*

*F.T.W.A.S., F.N.A., F.A.Sc., F.N.A.Sc., F.N.A.E., F.M.A.Sc.,*

*Vice-Chancellor*

*Jagdish Chandra Bose National Fellow (DST-GOI)*

*U.G.C. Research Scientist 'C'*

## **Preamble**

The Institute of Chemical Technology (ICT), Mumbai is a unique Institute which was established on 1st October 1933 as a University Department of the Bombay University (UDCT), completing 89 years of glorious past. ICT has created its own brand over the years which has been recognized by several prestigious awards and accolades to the faculty, students and alumni individually and also as an institute. Under the World Bank's Technical Education Quality Improvement Program (TEQIP), ICT was granted full autonomous status in 2004 and declared as Deemed-to-be University on September 12, 2008 by the MHRD under Section 3 of the UGC Act of 1956. It was bestowed an Elite Status and Centre of Excellence on par with IITs, IISc and IISERs in the State Assembly on April 20, 2012 by the Government of Maharashtra based on its stellar performance, on par with the institutes of national importance. The genesis of ICT Mumbai is truly educative and its achievements are inspirational. It has now three campuses: main



(Mumbai), and two off-campus, Bhubaneswar, Odisha and Marathwada, Jalna. The later were opened during 2018-19 with innovative Integrated Master's degree and research programmes. As a leading Technological and Engineering Institute, ICT has to play an exemplary and a leading role as it has done in the past in the time of every national and Industrial demand. This time the situation is different though, as in addition to the technological contribution, we have to address the clarion call of Atmanirbhar Bharat, as a priority.

ICT, Mumbai is housed on 16 acres of land in Mumbai and is running 9 UG (Chemical Engineering; 7 branches of Chemical Technology; 1 Pharmacy), 18 PG (9 inter-disciplinary) and 29 Ph D programmes (11 interdisciplinary), 1 PG Diploma in Chemical Technology Management for doctoral students and 1 PG Certificate Course in Chemical Safety and Risk Management for all UG and PG students. ICT is governed according to special Statutes which go beyond Deemed University concept as approved by the Government of Maharashtra. In a historic decision on February 12, 2018, the University Grants Commission declared Category I Deemed to be University status to ICT which has maintained high academic standards (NAAC grade of A++ CGPA 3.77 out of 4). The Minister of Human Resource Development, The Central Government is striving hard to introduce a liberalized and social relevant academic regime in the education sector with emphasis on linking autonomy with quality and societal relevance. The recently implemented National Education Policy (NEP 2020) coupled with Science, Technology and Innovation Policy (STIP) has charted out a clear path of implementation of both the programs with emphasis on and innovation and in the Education of Chemical Sciences. ICT has to play a leading role by setting the trend as a torch bearer. This academic freedom needs to be used for the betterment of the society and associated education using innovative ALL ENCOMPASSING teaching and knowledge dissemination methods, along with the creation of socially relevant knowledge having wider acceptance and ease of implementation. The start of new 2 year MBA programme in Innovation and Entrepreneurship is one step in this directions, starting July 2024.

## Two Off-Campuses

March 18, 2018 marked a unique milestone in the chequered history of ICT which crossed for the first time the confines the State of Maharashtra and entered the beautiful and benevolent State of Odisha. ICT is indeed fortunate that the launching of the Institute of Chemical Technology, Mumbai Indian Oil Odisha Campus (ICT Mumbai-IOC), Bhubaneswar was done at the auspicious hands of Hon'ble Shri Ram Nath Kovind, THEN the President of India in the august presence of Hon'ble Shri S.C. Jamir, Governor of Odisha; Hon'ble Shri Dharmendra Pradhan, then Union Minister for Petroleum and Natural Gas, Skill Development and Entrepreneurship, now THE Minister of Education and a galaxy of bureaucrats, distinguished academics and citizens, stalwarts from industry and well-wishers from across the country. This new campus currently being operated using IIT-Kharagpur extension campus has already bagged Best Educational Institute Awards for the past two years. Now, the Government of Odisha has sanctioned a land over 73 acres for the ICT-Mumbai Odisha campus which has now been taken in possession with the marking of the boundary. All modern research facilities are created over there through the support of IOC and this activity IS pursued and followed by top echelons of IOCL and the Honourable Minister Shree Dharmendra Pradhan personally. The construction activity for the new campus has been entrusted to NBCC, with a promise of its completion by 2024. The compound wall constructin has already started in the right earnest.

Furthermore, on May 4, 2018 Foundation Stone of the Marathwada campus was laid on 203 acres land at Siraswadi, Jalna at the hands of then Chief Minister of Govt. of Maharashtra, Shri Devendra Fadnavis, Shri Raosaheb Danve, M.P. and President, Maharashtra BJP, Shri Babanrao Lonikar, Gaurdian Minister and Shri Arjun Khotkar, Minister of State among many others. The State cabinet had sanctioned a budget of Rs 397.00 crore in its meeting held on 24th April 2018 and the utilization and infrastructure creation at both the campuses has started in the right

earnest. The places for the campus development have been finalised and have started with the engagement of all the stake holders through discussion.

The final plan of Phase I with a financial outlay of nearly 68 Crores has been approved by the Government of Maharashtra and work of the compound wall has started with the finalization of the architect and the construction contractor.

Many of the student from the first batch graduating in July 2023 have already received job offers and has secured admission in foreign universities for their future studies.

All the three campuses and the programmes have been approved by the AICTE and the UGC, Government of India.

## ICT Connectivity with Industry

The role of industry in promoting education and research at ICT has its roots in its foundation. Leading industrial magnates from textile and chemicals industry and philanthropists donated funds to establish many faculty positions (amounting to 19 such endowments) and laboratories right from its humble beginning and research started from the inception keeping faculty engaged in development of industry. Faculty used to offer free consultation to industry until 1955 for its growth and many new industries (nearly 600 first generation entrepreneurs) were started by ICT graduates, contributing to the industrial growth of the nation. This interaction and collaboration is even more today.

With the help of almost 100 research projects currently functioned at ICT from the Government and industry, new laboratories, creation of additional infrastructure, ICT is striving hard to meet the aspirations of all the stake holders.

ICT has been closely working with industry and the Government ever since its inception in the interest of the nation. Currently several active MOUs with many national and international renowned universities in USA, Canada, UK, Germany, France, Australia, Finland, Spain, and with multinationals such as Mitsubishi, Huntsman, Unilever, Biorad, Coka Cola, Pepsico, Reliance, etc. are in place ([www.ictmumbai.edu.in](http://www.ictmumbai.edu.in)). Bestowed with numerous awards and accolades, ICT has created a niche for translational research and technology development and transfer and is often cited as a role model for Academia and Industrial connect. Similarly, ICT Alumni has been engaging with all of the initiatives of ICT with significant financial help for projects involving lab modernization, new lab / building construction, starting of centres of excellence and an assisting student's through Ph.D. fellowships and educational assistance. More than 40 Corers of donations have been given by ICT Alumni, such as Late Shri Ashwin Dani, Shri Yogesh Kothari, Shri Madhukarbhair Parikh, Dr. Rama Rao, Shri Ashwin Desai and Dr. Pramod Choudhari (of Praj Industries Ltd.).

## ICT : CULTURE, CREATIVITY AND CONNECTIVITY

- Three campuses from 2018-19
- 3 Padma Vibhushan, 8 Padma Bhushan, 8 Padma Shri awardees; 2 Fellows of Royal Society (among 5 engineers from India); Several Fellowships- FNA, FNASc, FNAE, FRSC, FTWAS, MUSAE, 6 faculty and Alumni as US National Academy of Engineering
- Over 500 first generation entrepreneurs, some owners of Fortune 500 Companies;
- 640 ongoing Ph D Students
- Masters (331 First Year +225 Second Year)
- 360 UG Scholarship
- 41 Ph Ds during Eleventh interim Convocation (virtual) on August 24, 2021, 35 PhDs during Eleventh Convocation (virtual) on March 24, 2022, 27 Ph Ds during Twelfth interim Convocation on August 10, 2022 and 33 Ph Ds during Twelfth Convocation on March 4, 2023

- 100+ UG Summer Researcher Fellows
- Highest citation per faculty
- Annual citations more than 10,000
- SCOPUS Awards: 4 faculty in top 10 Chem Engg and 2 in top Chemistry faculty in India: 20th March 2018
- 7 Fellows of INSA, 4 Fellows of TWAS, 3 JC Bose Fellows, 6 Fellows of US National Academy of Engineering
- 23 Endowment Chairs; 15 UGCFR, 8 INSPIRE, 2 Ramanujam, 2 Ramalingaswami fellows
- 49 Endowment Visiting Fellowships; 11 endowments for library
- India's first five Ph Ds in Engineering and from ICT in 1941-42
- 406 Patents filed in last 10 years and more than 400 international publications /year, highest Publications/faculty
- 104 Projects including those from multinational industries
- Many technologies transferred to industry and start-up incubated in ICT
- Highest number of Prime Ministers Ph.D. Fellowships ICT is not just a Chemical Technology Institute but covers all branches of Chemical Sciences, Engineering and Technology; Product Engineering; Biological Sciences, Engineering and Technology; Materials Sciences and Engineering; and Energy Science and Engineering. Whatever is designated by Nano, Bio and Green Technologies are researched in all departments of ICT.

### Why ICT is in Odisha?

The economy of Odisha is one of the fastest growing economies amongst various States in India. According to recent economic survey, Odisha's gross state domestic product (GSDP) is expected to grow at around 8.5% during current fiscal year. Education is the key enabler of economy of any State; in particular, higher technical education along with related research and innovation. In order to develop any State as preferred destination for industrial services, R&D, it is necessary to invest in training high-quality manpower and develop indigenous technology. This shall enable the State to seize the emerging opportunity and ensure a rate of satisfactory growth.

The primary industries in Odisha are manufacturing; mining & quarrying; electricity, gas and water supply & construction along with considerably less explored Agri-processing industry. The industrial sector's contribution to the state's GSDP by almost 35%. Most of Odisha's industries are mineral-based. Odisha has 25% of India's iron reserves. It has 10% of India's production capacity in steel. Odisha is the top aluminium producing State in India. Two of the largest aluminium plants in India are located in the state. Odisha is the first State in India to reform its power sector and become surplus power generating state.

Similar to Maharashtra in the past, recent years have witnessed large projects in Odisha like Indian Oil's 11th Refinery at Paradip, envisioned as the Energy Gateway to Eastern India, the 15 MMTPA Refinery has been set up at an estimated cost of Rs. 34,555 crore. Other mega-projects include large Coal Gasification Plant at Angul, World's Largest Phosphatic Fertilisers Plant at Paradip, Vegetable Oil Plant at Paradip to name a few. Govt. of India's PSUs, RCF and GAIL are embarking a large scale Fertiliser Plant at Talcher using gasification of coal. Based on Petroleum Refinery at Paradip, Govt. of India has also approved setting up a Petroleum, Chemical, Petro-chemical Investment Region (PCPIR) for which Govt. of Odisha has earmarked 250 sq. km of land. Indeed all these sectors are linked to ICT's educational and teaching/training portfolio and strength. Therefore, it was felt by ICT and endorsed by Hon'ble Minister the need of a World Class Centre of Excellence in Chemical Engineering and Technology in Odisha to catalyse structured and focused growth of petro-chemical, chemical, polymer, textiles and fibres, herbal and pharmaceuticals, pesticide, Speciality Chemical and fine chemicals, perfumers and flavours,

rubber chemicals industry in Odisha. All of these For SEZ, PCPIR and Innovation hubs in Pharmaceuticals, Govt. of Odisha needs extensive and innovation input from Institute like the ICT, Mumbai. The Govt. of Odisha has been kind enough to allot over 73 acres of land to start our own campus and the plan and the grand vision has already been discussed at the highest level with a proactive participation of Hon. Minister Shree Dharmendra Pradhan and the Chief Minister Hon, Shree Naveen Patnaik.

### **Innovative Programmes at ICTM-IOC Bhubaneswar and Collaboration with IIT-Kharagpur**

As a consequence to the MOU between IOC and ICT on 16th November 2017, a proposal was submitted to the IOC Board giving the details of plan to promote several activities including setting up of campus at Bhubaneswar.

1. Integrated M. Tech. after 12th Standard (HSSC) of 5 years duration consisting of 15 trimesters with alternate term in industry, with major in Chemical Engineering and minor in 6 different disciplines. To ensure improved quality and industry relevance in curricula development for integrated M. Tech. (6 trimesters in industry and 9 in institute) in the field of Chemical Engineering as major branch with minor in Petrochemicals, Textiles, Polymers and Materials, Foods and Pharmaceuticals, and Energy Engineering. The last two trimesters will be for promotion of experimental and design project to promote entrepreneurship and start-up companies.
2. Ph. D. programmes in various disciplines. All these programmes are new and were introduced in India for the first time and are currently in its sixth year of running. During the industrial internship the industry have been requested to offer stipend making the education affordable to one and all. IIT Kharagpur has signed an MOU with ICT for running the Executive M. Tech. (e-M.Tech.) together whereby the student will spend time on both campuses and also they will partner in creation of Centres of Excellence in Research and Innovation. Currently the IIT-KGP extension Centre in Bhubaneswar is currently made available for ICT-IOC programmes. The campus is equipped with modern and sophisticated instruments for carrying out high class research and innovation at these proposed Centres of Excellence to develop technology and to support Research & Development in industry and Skill Development in Chemical Engineering, Petrochemicals, Textiles, Polymers, Pharmaceuticals, Energy, etc. for the country and especially the region. The first graduating batch has subsequently entered the main stream of the Chemical Engineering, serving jobs, admissions for higher studies abroad and elsewhere in India. For three consecutive years ICT- IOC Bhubaneswar Campus has been recognized as the best Technical Institute in Odisha by the Government of Odisha.

### **ICT in Marathwada**

The economy of Maharashtra is one of the fastest growing economies amongst various States in India and the Marathwada region needs a lot of development from the view point of high quality education and industrial development. ICT was therefore asked by the State Government to set up an off campus site there which was enthusiastically supported by ICT Alumni from the region. According to current economic survey, gross state domestic product (GSDP) is expected to grow at around 6 to 6.5% during current fiscal year inspite of the current economic downturn worldwide. Education is the key enabler of economy of any State; in particular, higher technical education along with related research and innovation. In order to develop any State as a preferred destination for industrial services, R&D, it is necessary to invest in training highquality manpower and develop indigenous technology. This shall enable the State to seize the emerging opportunity and ensure a rate of satisfactory growth. Jalna region has been identified as region of Mosambi, under the programme of one product one region. MOU has been signed with Praj Industries Ltd., Pune to develop and process the products coming out of Mosuambi. ICT, Jalna has also signed MOU with CIMAP, Lucknow for the cultivation and extraction of essential oils



and train the farmers.

## Innovative Programmes at ICT Mumbai Marathwada Campus Jalna

The programmes similar to those conducted at ICT IOC Bhubaneswar campus will be conducted. The executive M. Tech. programme will be taken up later.

1. Integrated M. Tech. after 12th Standard (HSSC) of 5 years duration consisting of 15 trimesters with alternate term in industry, with major in Chemical Engineering and minor in 6 different disciplines. To ensure improved quality and industry relevance in curricula development for integrated M. Tech. (6 trimesters in industry and 9 in institute) in the field of Chemical Engineering as major branch with minor, (i) Petrochemicals, (ii) Foods Engineering & Technology, (iii) Pharmaceuticals Engineering, (iv) Lipid Technology, (v) Polymers and Materials Engineering & Technology, (vi) Speciality Molecules Engineering, and (vii) Energy Engineering
2. Ph. D. programmes in various disciplines.
3. ICT Jalna Marathwada Campus has already graduated Ph.D. students, 269 international publications and has generated more than 3 Crores of funds for research projects. Centres of Excellence will be created in collaborative mode as stated above and the first one will be COE in Cellular Agriculture with participation of industry and an MOU is signed with Good Food Institute in this regard and also Praj Industries Ltd., Pune.

## Engineering Challenges and Social and Industrial Relevance of programmes

If you are admitted to this grand institution, which is strictly based on merit, it is assured that the education you receive will be of the highest order and, in the years to come, will place you at the cutting-edge of science and technology where you will develop products and services that greatly improve the lives of those around you. Do you wonder as to what relevance these programmes have vis-a-vis 'white collared' engineering programmes and are these programmes as rewarding? No virtual world can be created without materials produced by niche and eco-friendly sustainable technologies. We all live in the world of chemicals, molecules and products, which are transformed to give quality and longevity to life. In this context, let me direct your attention to the "Grand Challenges", as they are referred to by the US Academy of Engineering though very global in nature and these are:

- |  |                                    |
|--|------------------------------------|
| 1. Advancing health informatics                    | 2. Engineering better medicines    |
| 3. Making solar energy more affordable             | 4. Providing access to clean water |
| 5. Reverse-engineering the human brain             | 6. Advancing personal learning     |
| 7. Engineering tools for scientific discovery      | 8. Managing the nitrogen cycle     |
| 9. Providing clean energy from fusion              | 10. Securing cyberspace            |
| 11. Preventing nuclear terror                      | 12. Enhancing virtual reality      |
| 13. Developing new methods of carbon sequestration |                                    |
| 14. Restoring and improving urban infrastructure   |                                    |

All these challenges are uniquely physicochemical in nature and an education in chemical engineering or chemical technology particularly, empowers and enables you to tackle these.

There is a confluence of chemical sciences and engineering with biological sciences and engineering. The technologies related to producing advanced materials, clean energy generation and storage, medicines, high-end drugs, nutraceuticals, food products, fertilizers, agrochemicals, polymers, surface coating materials, laser dyes, colorants, pigments, adhesives, textiles, fibres, oleochemicals, surfactants, lubricants, water treatment and purification, air pollution abatement, bio-processing, downstream processing and a myriad of related issues involve high degree of

science and engineering. How are we going to feed billions of people, remain in harmony with nature, and develop sustainable processes and technology? What will be their energy and material needs? Life expectancy is getting extended. Addressing these challenges requires a multifaceted effort that traverses the fields of chemistry, engineering, biotechnology, information technology and nanotechnology, engineering mathematics, environmental engineering and the curriculum and courses offered in various programmes at the Institute have judiciously incorporated subjects from all these disciplines. Our programmes directly allow being on the forefront of these rewarding careers. The new challenge in the form of COVID 19 has prompted us to come up with new and an innovated thought processes which has to be evolved with new priorities to be listed out, coupled with the directives suggested by the National Educational Policy (NEP), 2020. The implementation of NEP 2020 from the Academic year 2023 has allowed significant flexibility to the students, introducing many multidisciplinary minor courses, including management to the undergraduate students. More importantly, you will be tutored and mentored by some of the nation's most eminent scientists and engineers who themselves are the vanguard of research in these fields, thereby ensuring that the knowledge passed onto you is pertinent, real experience based and updated. Teaching without research is barren and our planners thus were visionary in bringing research component in our teaching to solve real problems. These researcher-cum-teachers are always on their toes and work long hours to be on the forefront. This invigorating atmosphere is witnessed in my institute. There is no nine-to-five culture; working extended hours is a habit here imbibed by students and teachers alike. Besides, a large number of members the ICT faculty acts as consultants/advisors to industry with a strict condition that no institutional material facility is used for these industrial consultations. Research projects investigated in our labs are of both academic sanctity and industrial relevance. So the proverbial 'Practise what you preach' is indeed executed by the faculty members, which also gets translated in their teaching; many of them actually earn their salaries through the one-third share of the consultation fees paid to the institute. The Institute's strong multi-disciplinary research programmes have helped to create a unique learning environment that places great emphasis on synergizing knowledge from several sources to develop creative and effective solutions to many of the problems faced in industry, society and the country. This eclectic combination of a rigorous and up-to-date curriculum, excellent laboratory and demonstration facilities, world-renowned faculty and a conducive learning environment brimming with the next generation of great minds that sets the Institute apart. The ICT is held in high esteem by other premier institutes, industry and government for many of its unique characteristics and achievements. All of them deem that ICT is different; distinctly and significantly different! Outsiders always wonder how a small university department, with poor funding has managed to excel and that too without any public glare or publicity? The magic mantra for our success is a concoction of dedicated faculty, meritorious students, admirable support staff, distinguished alumni, strong connect with industry, and assistance to all needy students, a grand alumni association and above all relevance of our programmes in national wealth creation

### Closing Remarks

"I am sure by now you would have realized as to why the ICT is held in high esteem and its uniqueness and heritage among all institutes of higher learning in India and looked to lead the new initiatives proposed by NEP 2020. Great institutes are not built overnight. All the academics of ICT, who act as researcher, consultants to industry, member of several important professional bodies and government committees since its inception and based on the interactions with alumni, government officials, faculty from leading institutes in India and abroad, can reveal a trend- that is- quality of education, the brand name of institute and future prospects, far outweigh any other consideration on the minds of students and employers, foreign universities admitting ICT's UG students for PG courses alike, while choosing an institute, than the cost of education.

Indian parents sacrifice many things to educate their off-springs in the best of schools and colleges; many times not fully knowing about the institute or the courses they offer.

If you get selected through our admission process, which is transparent and strictly on merit, with all government policies in place, my congratulations and best wishes to you. I hope I have

convinced you, to join this great institute. The opportunities that lie in store for you during your years with us and once you graduate will truly be enormous, if you are sincere, committed and motivated to learn. If you are unlucky this time because you fall short of the cut-off criteria at undergraduate level, try again for master's and Ph.D. programmes after your graduation. Should your destination be some other place for whatever compelling reasons, let me wish you the very best for all your future endeavours.

The Rich. The Poor. The Marginal. The Privileged. The Underprivileged all have studied here. They made it BIG. Do not ask how to do. Do it. Underestimate NOT, who you could be. Think Big. Dream Big. Do not dismiss your dreams and see, how you can contribute to the nation and the society. To be without dreams is to be without hope; to be without hope is to be without purpose. Thrust, character and the purpose are the three things taught in this Institute along with the well-defined skill-sets.

*The very best to you; wherever you go.*

***Prof. Aniruddha B. Pandit***





INSTITUTE OF CHEMICAL TECHNOLOGY  
Mumbai









## 1.2 IMPORTANT INSTRUCTIONS

The fees for the submission of a single form for a particular programmes at ICT are as follows

Programmes	Open Category	Reserved Category **
Postgraduate	Rs. 2000/-***	Rs. 1000/-***

- \*\* Fees for Reserved Category candidates are applicable to the candidates from the State of Maharashtra only.
- \*\*\* The payment for the same should also be made online (Extra charges may apply for online transaction)
- 3. The admission form for the academic year 2025-26 should be filled online on the ICT website, <http://ictmumbai.edu.in> The Academic Bank of Credits (ABC) ID is mandatory for submission of Application from AY 2025-26 for all programmes. Please visit <https://www.abc.gov.in/> for creating ABC ID, if you do not have one already.
- 4. Anybody, not belonging to the Reserved Category, found buying application form under that category will be disqualified.
- 5. Please read the Handbook carefully before filling the admission form.
- 6. Due to circumstances beyond control of authorities, the schedule of admission may change and it will be notified on the website. Candidates are advised to watch the website regularly.
- 7. All the information related to PG Admissions 2025-26 will be displayed on <http://ictmumbai.edu.in> and the ICT Notice Board. **Please note that no individual correspondence will be made in this regard and it is the responsibility of the candidates to visit the webpage regularly.** PG candidate must visit ICT website time to time to check the Admission schedule.
- 8. **Pleading ignorance about information displayed on the web shall not be entertained.**
- 9. Admission to hostel on the Main Campus in Mumbai is as per the rules laid down and the quota for various courses. **Admission to ICT, in no way, guarantees admission to Hostel. The Hostel allotment will depend on the availability.**
- 10. Merit is the only criterion for admission to any course and seats are reserved as per Government of Maharashtra's directives in this connection for campuses in Mumbai and Jalna. The IOCB campus will follow the all-India criterion.
- 11. Biometric attendance system is adopted for all classrooms and lectures are recorded. An auto generated message is sent to the student and his/her registered parent/guardian at 9.00 pm if the student has missed any lecture. Thus, a record is available to ICT authorities on real-time basis.
- 12. **There are no agencies operating on behalf of the institute and there is no capitation fee or donation in regard of admissions.** Be careful of any persons claiming to offer admission to the ICT or knowing authorities. No extraneous considerations should be brought to exert pressure on the Admission Committee. It will be strictly dealt with. We take pride in fairness and openness in admissions and all matters and give justice to one and all.
- 13. All correspondence regarding admissions should be addressed to the Registrar, Institute of Chemical Technology, Nathalal Parekh Marg, Matunga, Mumbai-400019 ([admission@ictmumbai.edu.in](mailto:admission@ictmumbai.edu.in); +91-22-33611111/ 2222; Fax: +91-22-33611020).



## 1.3 APPROACH ROUTES TO ICT AND LANDMARKS

A location map of the ICT, available on Google maps, is provided above and various access routes are described from nearby railway stations, bus stops and the airport.

### Landmarks in the vicinity of ICT

VJTI (Veermata Jijabai Technological Institute) (Backside), Khalsa College, Don Bosco School and Church are well-known landmarks adjacent to the ICT on the Nathalal Parekh Marg. The Main Security Hub of ICT prominently depicts its name both in English and Devanagari scripts and cannot be missed. The main building is constructed of a yellowish Malad stone, surrounded by excellent greenery and beautiful gardens. The ICT campus is a picturesque and quiet place. It is located on a 16-acre plot, surrounded by Nathalal Parekh Marg (front side), Puranmal Singhani Marg (between Don Bosco and ICT), R.A. Kidwai Marg (backside) and P. B. Sule Marg.

Most of the long-distance trains on the Central and Western Railways halt at Dadar Railway Station (see routes D and E below). All buses operated by the Maharashtra State Road Transport Corporation and private carriers stop at Dadar bus station on Dr. Babasaheb Ambedkar Road near Jagannath Shankarshet Flyover and Khodadad Circle (or popularly called Dadar TT).

### A. From Matunga Railway Station (Central Railway-Main Line)

ICT can be reached in about 15 minutes on foot following L. Nappu Road, Bhandarkar Road, Maheshwari Udyan (King's circle), Don Bosco Church/ High School/ Khalsa College.

### B. From Wadala Railway Station (Harbour Line of Central Railway)

It is about 12 minutes walk. Exit on the western gate on the Rafi Ahmed Kidwai Road; walk straight on D.S.Barato Road in front of the station to Wadala Church and turn right on Nathalal Parekh Road (backside of VJTI). It will take about 5 minutes to reach the ICT.

### C. From King's Circle Railway Station (Harbour Line of Central Railway)

Get down on Dr. Babasaheb Ambedkar Road and walk southward towards Arora Cinema and then along Nathalal Parekh Road towards Don Bosco Church/ High School and ICT. It is about 10 minutes walk.

### D. From Dadar Railway Station (Central Railway)

Walk towards Dr. Babasaheb Ambedkar Road via Pritam Hotel. Take BEST Bus No.64 to Maheshwari Udyan (King's circle) and get down at the ICT / Don Bosco Church/ High School bus stop exactly opposite to ICT's main gate.

### E. From Dadar Railway Station (Western Railway)

Exit on the western gate to Senapati Bapat Marg and walk on Ranade road and N.C. Kelkar Road to Plaza Cinema. Board on Bus No. 169 towards Pratiksha Nagar and alight at the ICT / Don Bosco Church/ High School bus stop exactly opposite to ICT's main gate. You can also get on to Bus No. 63 to Chunabhatti and get down at the Bus stop called Gate No 4. Walk along the R.A. Kidwai Marg and enter through the rear gate for the ICT hostels.

### F. From Chhatrapati Shivaji Maharaj Terminus (CST): Main Central Railway Station

Board a Harbour train to Wadala station and follow route B. Else board a Main line train to Matunga Central Station and follow route A.

### G. From Kurla Lokmanya Tilak Terminus Railway Station

Board a Harbour train to Wadala station and follow route B. Else board the Main line train to Matunga Central Station and follow route A.

### H. From Chhatrapati Shivaji International Airport Sahar and Domestic Terminal, Santacruz (East)

Rent either a pre-paid taxi Uber or Ola or hire a taxi for Maheshwari Udyan (King's Circle), Don Bosco Church/ High School and ICT. The maximum fare for a regular taxi should be around Rs. 400, without any traffic jams. It takes about 30-40 minutes.





# NATIONAL AND INTERNATIONAL CERTIFICATION





Ministry of Education  
Government of India



# Certificate

## NATIONAL INSTITUTIONAL RANKING FRAMEWORK

INDIA RANKINGS 2024

**Institute of Chemical Technology, Mumbai  
Ranked 56 Overall Category**

CHAIRMAN, NBA

MEMBER SECRETARY, NBA



Ministry of Education  
Government of India



# Certificate

## NATIONAL INSTITUTIONAL RANKING FRAMEWORK

INDIA RANKINGS 2024

**Institute of Chemical Technology, Mumbai  
Ranked 35 In University Category**

CHAIRMAN, NBA

MEMBER SECRETARY, NBA



Ministry of Education  
Government of India



# Certificate

**NATIONAL INSTITUTIONAL RANKING FRAMEWORK**

**INDIA RANKINGS 2024**

**Institute of Chemical Technology, Mumbai  
Ranked 41 in Engineering Category**

CHAIRMAN, NBA

MEMBER SECRETARY, NBA



Ministry of Education  
Government of India



# Certificate

**NATIONAL INSTITUTIONAL RANKING FRAMEWORK**

**INDIA RANKINGS 2024**

**Institute of Chemical Technology, Mumbai  
Ranked 5 in Pharmacy Category**

CHAIRMAN, NBA

MEMBER SECRETARY, NBA





Ministry of Education  
Government of India

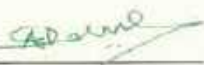


# Certificate

**NATIONAL INSTITUTIONAL RANKING FRAMEWORK**

**INDIA RANKINGS 2024**

**Institute of Chemical Technology, Mumbai  
Ranked 40 in Research Category**

  
CHAIRMAN, NBA

  
MEMBER SECRETARY, NBA





# DISTINGUISHED FACULTY

**PADMA VIBHUSHAN**  
**PROF. M. M. SHARMA**  
Emeritus Professor of Eminence  
Former Director, UDCT (ICT)



**PADMA BHUSHAN**  
**PROF. J. B. JOSHI**  
Emeritus Professor of Eminence  
Former Director, UICT (ICT)

**PADMA SHREE**  
**PROF. G. D. YADAV**  
Emeritus Professor of Eminence  
Former Vice Chancellor, ICT







## **EMERITUS PROFESSOR OF EMINENCE PROF. J.B. JOSHI**

*B.Chem.Eng., M.Chem.Eng., Ph.D. (Tech.)*

*FNA, FTWAS, FASc, FNAE, FMASc*

Emeritus Professor, Homi Bhabha National Institute;

Adjunct Professor, Department of Chemical

Engineering; Louisiana State University, USA and

Curtin University, Australia

Former Director, ICT Mumbai.

Professor Jyeshtharaj Bhalchandra Joshi is an outstanding chemical engineering professional who has developed novel processes, designs, products and implemented in large, medium and small-scale industry including design of more than 1000 reactors for commercial operation. He has developed efficient designs of cookers and stoves and held more than 300 workshops for promoting science awareness among school going students. As President of Marathi Vidnyan Parishad, he has been actively driving the task of improving scientific temper of the society through different activities. Professor Joshi has done truly outstanding work in the area of multiphase reactors which has been widely acclaimed. He has succeeded admirably in developing design procedures for multiphase sparged and mechanically agitated reactors, which form heart of the chemical process industry. He was Director of ICT (1999-2009). Professor Joshi has guided 91 Ph.D. and 60 Masters thesis. He has published more than 500 papers in international cited journals and more than 60 state of the art reviews/ monographs/ book chapters. He has more than 17000 citations and h-index of 64. He has been honoured with Padma Bhushan by the President of India. He has passion to interact with students and young professionals for mutual inspirations and service to society.

The list of prominent awards includes: Fellowship of TWAS, INSA, IASc, INAE; S.S. Bhatnagar Prize 1991 (CSIR), Young Scientist Award 1981 (INSA), Amar-Dye-Chem Award 1983 (IChE), Young Associate 1983 (IASc), Fellow Maharashtra Academy of Sciences, 1987, Herdillia Award 1989 (IChE), Maharashtra State National Award 1991 (ISTE), VASVIK Award 1992, Diamond Award 1994 (UDCT), Dr. K.G. Naik Gold Medal 1995 (MS University Baroda), Chemtech Foundation Award, Goyal Foundation Award 1998 (Kurukshetra U), Vishwakarma Medal 2000 (INSA), 2000; State Best Teacher Award 2004 (Maharashtra), Dr. Anji Reddy Innovator of the year Award 2005 (IChE), Diamond Award 2007 (IChE), J. C. Bose Fellow, 2008 (DST), Life Time Achievement Award (Indian Chemical Council), Sayed Husain Zaheer Medal 2008 (INSA), ICT Superstar 2012 (ICT Mumbai), Eminent Engineer Award 2018 (Engineering Council of India), Lakshya Distinguished Leadership Award 2018 (NITIE Mumbai).

### **AWARDS:**

**Padma Bhushan** (Govt. of India, 2014),

**Shantiswarup Bhatnagar Prize** (Engineering Sciences, 1991),

**Eminent Engineer Award**

(Engineering Council of India, 2018). Elected to the US National Academy of Engineering: For research, innovation, and education in green chemistry, catalysis, nanotechnology, and chemical engineering leading to clean and green technologies.

### **Subjects Taught:**

Fluid Mechanics, Multiphase Reactor Design

### **Research Interests:**

Fluid Mechanics, Multiphase Reactor Design, Computational Fluid Dynamics, Atomic Energy, Solar Energy, Bio-Energy.

**Recognized Research Guide for:** Ph.D. (Tech.) in Chemical Engineering, Nuclear Engineering, Ph.D. (Science)

**Guided students:** Ph.D. 123, Masters: 60

Post Doctoral: 14

**Total Research Publications -**

National : 25

International: 644

**Current Students:**

Ph.D. 10

Masters: Nil

Post-Doctoral: 4

**Citations: 28646** (according to Scopus)

**H-index: 84** (according to Scopus)





## VICE CHANCELLOR

# PROF. ANIRUDDHA PANDIT

*Ph.D.(Tech.), B. Tech. (Chem.)*

*(FTWAS, FNA, FASc, FNAE, FNASc, FMASc)*

Professor, UGC Research Scientist,

"C" (Professor's Grade)

J. C. Bose National Fellow (DST, Govt. of India)

## RESEARCH INTERESTS:

Physical and Chemical Processing applications of Cavitation phenomena, Sonochemistry, Ballast Water Treatment, Mixing in Mechanically agitated contactors: Experimental and CFD Investigations, Modeling of Stoves, Use of non-conventional energy sources, Synthesis of Nanomaterials Biotechnology: Protein modification, Cell disruption and Microbial fuel cell.

**A**niruddha B. Pandit was born on 7<sup>th</sup> December 1957 in Mumbai, Maharashtra. He earned his B. Tech (Chem) degree from Indian Institute of Technology (IIT), Banaras Hindu University in 1980 and earned his Ph.D. (Tech) degree from University Department of Chemical Technology (now ICT), in 1984. From 1984 till 1990 he worked in the Department of Chemical Engineering, University of Cambridge, United Kingdom as a Research Assistant & then as a Research Associate with Prof. J. F. Davidson, working in the area of bubble break-up and design of multiphase reactors. He developed many novel designs of gas-liquid contactors and also developed new impeller designs.

**ACADEMIC & RESEARCH CONTRIBUTIONS:** After returning to India in 1990, he joined ICT as a UGC Research Scientist 'B' and was subsequently promoted to Scientist 'C' (Professor's Grade) in 1996. He was instrumental in starting a major activity & program in the area of Hydrodynamic Cavitation for intensification of physical and chemical processing applications. He has successfully exploited the cavitation phenomena for a variety of operations such as crystallization, emulsification, nano-particle synthesis and processes such as esterification, oxidation etc on industrial scale. He has been an active industrial consultant for many large size national and international companies.

A unique creative approach of using fundamental knowledge, coupled with simple, elegant experiments has resulted into novel cavitation reactors. Prof. Pandit has authored over 450 publications, 5 books and over 12 chapters & is on the Editorial

**Subjects Taught:** Environmental Engineering and pollution control Chemical Project Economics, Design of Multiphase Reactors

**Recognized Research guide for**

Ph.D. (Tech.) in Chemical Engineering, Bioprocess Technology, Green Technology, Ph.D. (Science) in Chemistry

**Guided students:**

Ph.D. : 65, Masters : 106

**Total Research Publications :**

National/International : Total Publications: 458 (SCOPUS), **Citations:** 26606 (SCOPUS)(May 2024),

**H-Index:** 88 (SCOPUS) (May 2024)

**Patents (granted in last 5 years): 52**

**Fellowships:**

1. Fellow, National Academy of Engineering US, 2023
2. Fellow, The World Academy of Sciences, 2015
3. Fellow, National Academy of Sciences in India, Allahabad, 2009
4. Fellow, Indian National Science Academy, 2008
5. Fellow, Indian Academy of Sciences, 2008
6. Fellow, Indian National Academy of Engineering, 2006

7. Fellow, Maharashtra Academy of Sciences, 1996

**Awards:**

- ISTE National award for outstanding research, 1995
- Prof. R.A. Rajadyaksha Best Teacher award, on 15 occasions in the past 20 years
- VASVIK award, 1996
- IChE - Herdilia award for excellence in basic research, 2001
- Distinguished Alumnus award, Institute of Technology-Banaras Hindu University, 2004
- Distinguished Alumnus award, UICT, 2008
- INSA, Best Teacher award, 2012
- Vishwakarma Medal of Indian National Science Academy 2015
- Fellow of TWAS 2015
- Nominated as a member of the CSIR Society, Government of India, 2023
- Secured First Position as Scientist in India in the Engineering and Technology field by Research.com, 2023
- Selected as 'Fellow of the United States National Academy of Engineering (US-NAE)' 2023

board of five International Scientific Journals.

**OTHER CONTRIBUTIONS :** In addition to his research contribution, Prof. Pandit has contributed to innovation in teaching, at graduate and undergraduate levels, demonstration experiments for elaborating the physical principles of many chemical engineering operations. He is actively involved in working with committees in the area of harnessing solar energy & with tribal population in extending the chemical engineering principles for drying of farm/ forest product & water disinfection for potable water. He is a president of a NGO named Land Research Institute dealing with the Energy and Town planning sector.

**Administrative Contributions:** Prof. Pandit has taken over the charge as Vice Chancellor of Institute of Chemical Technology on November 29, 2019. Prior to this, he has acted as a Dean in his capacity of Human Resource and earlier as Dean of Research Consultancy and research Mobilization. He has been the coordinator of ICT-DAE center for Chemical Engineering Education and Research since its inception in 2008. He is on the editorial board on 5 international journals and is an associated editor of Ultrasonic Sonochemistry. He has successfully guided and completed international science collaborations with Universities from France, Australia and The Netherlands. He is also on the project appraisal and evaluation committees of the DST and UGC, Govt of India. He is currently serving as a member of the BOG of the IIT Bombay. He has been an active industrial consultant to many national and international industries.





## EMERITUS PROFESSOR OF EMINENCE

### PROF. M. M. SHARMA

*B. Chem. Eng., M.Sc. (Tech.) (Bombay), Ph. D. (Cambridge), D.Sc.(h.c.) (I.I.T., Bombay; Delhi; Kharagpur; B.H.U.; Roorkee) (Calcutta) (Kanpur) (Bundelkhand) (Lucknow) (h.c.), LL.D. (Mumbai) (h.c.), FEng, FRS, FNA, FASc, FNASc, FTWAS, C Chem, FRIC (U.K.), C. Eng., FICHe (U.K.), FIChE, FICS, FBRS  
email: [profmmsharma@gmail.com](mailto:profmmsharma@gmail.com)*

**M**an Mohan Sharma FEng (born May 1, 1937 in Jodhpur, Rajasthan) is an Indian chemical engineer. He was educated at Jodhpur, Mumbai and Cambridge. At the age of 27 years, he was appointed Professor of Chemical Engineering in the Institute of Chemical Technology (UDCT), Mumbai. He later went on to become the Director of Institute of Chemical Technology (ICT/ UDCT/ UICT), the first chemical engineering professor to do so from ICT.

In 1990, he became the first Indian engineer to be elected as a Fellow of Royal Society, UK. He was awarded the Padma Bhushan (1987) and the Padma Vibhushan (2001) by the President of India. He has also been awarded the Leverhulme Medal of the Royal Society, the S.S. Bhatnagar Prize in Engineering Sciences (1973), FICCI Award (1981), the Vishwakarma medal of the Indian National Science Academy (1985), G.M. Modi Award (1991), Meghnad Saha Medal (1994), and an honorary Doctor of Science degree from Indian Institute of Technology, Delhi (2001). Man Mohan Sharma obtained Bachelor of Chemical Engineering (1958) from UDCT (ICT) and subsequently MSc (Tech.) in 1960. He obtained Ph.D. (Chemical Engineering) (1964) at Cambridge University with PV Danckwerts. In 1964, he returned to India as Professor at the University of Bombay, and later became Director of the University Department of Chemical Technology (UDCT), now ICT (Institute of Chemical Technology - A Deemed to be University). He served the institute for 33 years. He has been honored by several universities including IITs by honorary doctorates.

### Awards

Professor Sharma is a recipient of a number of prestigious academic honours and awards. He is a Fellow of the Indian Academy of Sciences, Bangalore, Honorary Fellow of the National Academy of Sciences (India), Allahabad, Fellow of the Royal Society, London. Subsequently he was elected Honorary Fellow by the Royal Academy of Engineering and is Foreign Associate of the US National Academy of Engineering. He is recipient of Padma Bhushan and Padma Vibhushan.

### Academic Career

Professor Sharma made contributions to chemical engineering science and technology. His studies on Bronsted based catalysis in  $\text{CO}_2$  hydration (published in the Transactions of Faraday Society) and subsequently kinetics of COS absorption in aqueous amines and alkanolamines brought out linear free energy relationship between  $\text{CO}_2$  and COS absorption in solutions of amines and alkanolamines. He has contributed extensively on the role of microphases in multiple reactions which he pioneered. He also became an independent Editor of Chemical Engineering Science at a young age. He taught different subjects in chemical engineering and encouraged his doctoral students, from the very beginning, to publish independently their work in renowned journals.

Under his stewardship, UICT got autonomy of UGC. He brought about all-around improvement in all the departments of the Institute leading to exceptionally high number of Ph.D.s each year based on the number of faculty members. He served in Petroleum and Natural Gas as Chairman of the SAC and in the SAC to Cabinet and PM. He was INSA Council Member (1980-82) and Vice President (1987-88).





## **EMERITUS PROFESSOR OF EMINENCE PROF. G. D. YADAV**

*B. Chem. Eng. Ph.D. (Tech.), D.Sc. (Hon. Causa, DYPK),  
FTWAS, FNA, FASc, FNASc, FNAE, FRSC (UK),  
FISTE, FIChemE (UK), FIChE, FICS*

Former Vice Chancellor and R.T. Mody Distinguished Professor

Tata Chemicals Darbari Seth Distinguished Professor of Innovation and Leadership

J.C. Bose National Fellow (Govt. of India)

Adjunct Professor, RMIT University, Melbourne, Australia

Adjunct Professor, University of Saskatchewan, Saskatoon, Canada

Conjoint Professor, University of New Castle, Australia

Padmashri by President of India (Fourth Highest Civilian Honour)

### **Research Interests :**

Green Chemistry and Technology (Fundamental and applied aspects of green chemistry and engineering, particularly in the design and development of benign and eco-efficient processes in the chemical and allied industries such as bulk chemicals, intermediates, pharmaceuticals, fine chemicals, perfumes and flavours, and inorganics); Catalytic Science and Engineering (New catalytic materials, phase transfer catalysis, ionic liquids, reactions in supercritical carbon dioxide, catalysis modelling and simulation, biocatalysis in non-aqueous media, synergism of chemical catalysis with microwaves and ultrasound, and cascade engineered catalysis, renewable materials as feedstock for value added chemicals, biorefinery); Nanomaterials and nanocatalysis (Solid acids, superacids and bases, supported metals as nanocatalysts, sulphated zirconia, UDCaT series of novel catalysts, ion exchange resins, heteropoly acids, clays, and zeolites, novel redox materials, carbon nanotubes); Biotechnology (Enzyme catalysis in pharmaceutical transformations in non-aqueous media, chiral separations, biomass conversion, biorefinery, Synergism of Microwaves and Enzymes); Energy Engineering (Petroleum Engineering, Flow through porous media, Network modelling, Novel methods of enhanced oil recovery; Coal conversion, Hydrogen generation and storage)

Professor G.D. Yadav was conferred Padmashri By the President of India in 2016. He has won over 125 national and international honours, awards, fellowships, editorships, etc. Several Life Time Achievement Awards have been bestowed on him by prestigious organizations. He is an elected Fellow of all National Science and Engineering Academies in India which is rare: Indian National Science Academy (INSA), Indian Academy of Sciences (IASc), National Academy of Sciences, India (NASI), Indian National Academy of Engineering (INAE) and The World Academy of Sciences, Trieste (TWAS). He is a Fellow of Royal Society of Chemistry, UK, Institution of Chemical Engineers, UK, Indian Institute of Chemical

Engineers, Indian Chemical Society, and Indian Society for Technical Education, among others. He is one of the topmost engineering scientists and academicians in India, who despite being an administrator, is still actively involved in guiding Ph.D., patenting, publishing, consulting and transferring technologies to industry. He has given more than 670+ talks including prestigious orations, plenary lectures, keynote addresses and seminars across the world in his illustrious career. He has been an active consultant to industry with more than 70 assignments and over 70 sponsored research projects for past 30 years. He has been involved in many policy making prestigious committees of central and state governments, UGC, AICTE, NBA, CSIR, DBT, MHRD, NAAC, CII, FICCI, etc. He has provided inspiring leadership to the Institute of Chemical Technology (ICT), the Indian Institute of Chemical Engineers (IChE), Catalysis Society of India, and Maharashtra Academy of Sciences. As President of IChE in 2001, he changed the face of IChE and made it a vibrant body. Under his dynamic leadership, ICT has established two new campuses, ICT Mumbai Indian Oil Odisha Campus Bhubaneswar with complete support of Indian Oil Corporation and partnership of IIT Kharagpur for research and innovation and Marathwada Jalna campus. Both these campuses will have innovative programmes of education and innovation which will create entrepreneurs and are unparalleled example in India and demonstrate Prof Yadav's vision and leadership of academia. ICT has won many awards under his leadership including the University of the Year Award by FICCI (2018). Five documentaries are available on YouTube on his life and vision.

Prof. Yadav was elected to the US National Academy of Engineering: For research, innovation, and education in green chemistry, catalysis, nanotechnology, and chemical engineering leading to clean and green technologies. 1) This is a really big honour and international recognition. This year's list also includes Satya Nadella and Elon Musk along with Professor Yadav. This is second year in succession where ICT has been recognised. Out of 18 such Fellows of NAE, USA who are Indian Nationals, alive today, 5 are from ICT.

Prof. G.D. Yadav has been selected as the National Science Chair (Mode 1) by the Science and Engineering Research Board (SERB) of the DST, Govt of India, for the period of 3 years.

Prof. G. D. Yadav has been conferred the "Prof. Jai Krishna Memorial Award 2021" by the Indian National Academy of Engineering (INAE) for his outstanding contributions in the field of Engineering. The Award will be conferred in the Award Ceremony to be held virtually during the INAE Annual Convention scheduled on December 15-17, 2021.

**Subjects Taught:** Fundamentals of Green Chemistry and Technology

**Recognized Research guide for**  
Ph.D. (Tech.) in Chemical Engineering, Bioprocess Technology, Green Technology, Ph.D. (Science) in Chemistry

**Guided students:**

Ph.D.: 108, M. Tech.: 142, Postdoc: 48

**Total Research Publications**

National: 525, International: 505

**H-Index:** 68; i-10 index 316,

**Citations:** 16,700

**Patents:**

Total Patent Application Filed: 102;

Total **Patents Granted:** 121;

**AWARDS and Recognitions : (Over 125)**

- Padmashri (Govt. of India, 2016),
- D.M. Trivedi Life Time Achievement Award by Indian Chemical Council,
- Dr B.P. Godrej Life Time Achievement Award by Indian Institute of Chemical Engineers,
- Professional Award (100 Rotary Clubs),
- Founding Chair, ACS India International Chapter
- President Indian Chemical Society
- President, Maharashtra Academy of Sciences
- Former President, Catalysis Society of India
- Former President, Indian Institute of Chemical Engineers
- Council Member, Indian National Science Academy (2019-)
- Independent Director: Godrej Industries Ltd, Aarti Industries Ltd, Meghmani Organics Ltd, Bhageria Chemicals Ltd, Clean Science & Technology Pvt Ltd.



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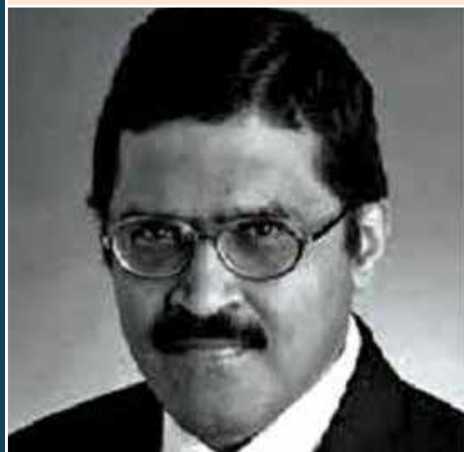
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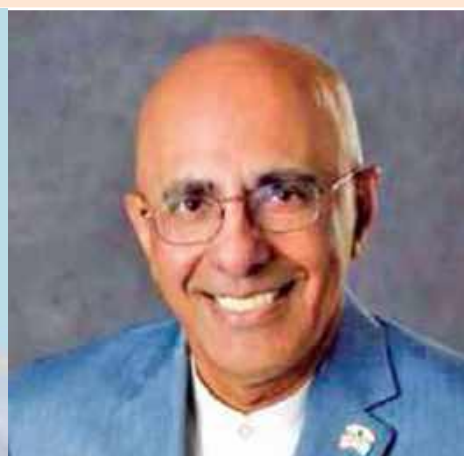
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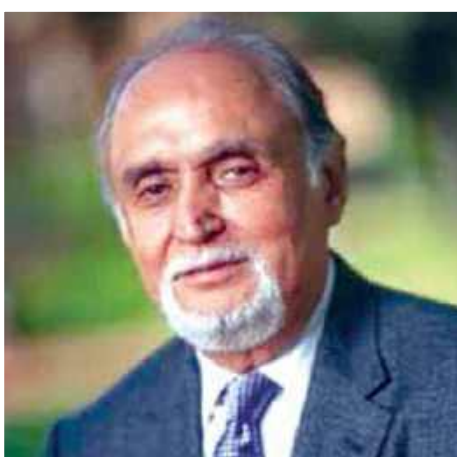
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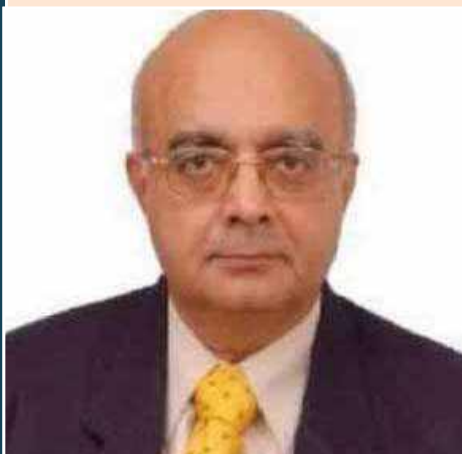
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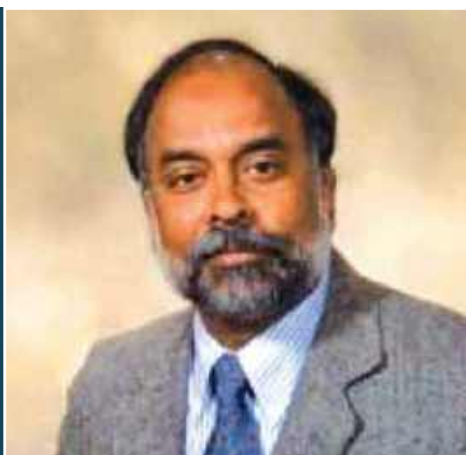


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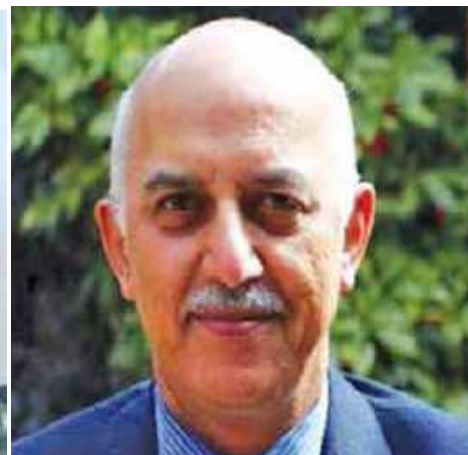
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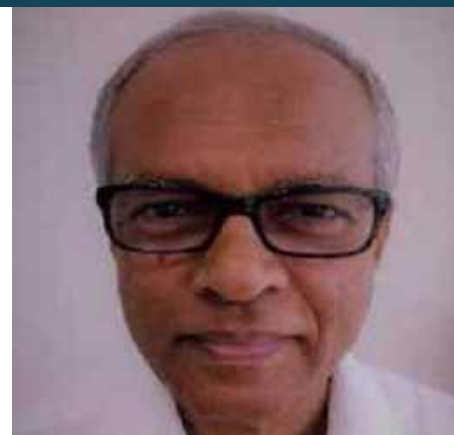
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4120-5731 (R), 98-607-99954 (M);  
Email [s.sivaram@iiserpune.ac.in](mailto:s.sivaram@iiserpune.ac.in);



**PROF. DAMODAR ACHARYA**

Formerly Director IIT, Kharagpur,  
Formerly Chairman, All ICTE,  
New Delhi and Formerly Vice  
Chancellor,  
Biju Patnaik University of Technology,  
Bhubaneswar,  
Chairman Advisory Board,  
SOA University, Khandagiri Square,  
Bhubaneswar – 751 030.  
Tel: 06742350885  
Email: [acharyadamodar94@gmail.com](mailto:acharyadamodar94@gmail.com)



**PROF. CHENNUPATI JAGADISH**

Distinguished Adjunct Professor of  
Physics and Chemical Engineering  
ANU College of Science,  
Australian National University  
Email: [Chennupati.Jagadish@anu.edu.au](mailto:Chennupati.Jagadish@anu.edu.au)



**Shri. VIJAY B. SAMANT**

President and CEO  
VICAL, 93/73, Powne Centre Drive  
Suite 100, Sandiago  
California, CL 92121-3088, USA.  
Email: [VBSamant@vical.com](mailto:VBSamant@vical.com)



**PROF. SANJOY BANERJEE**

Distinguished Professor and Director,  
CUNY Energy Institute  
Steinman Hall, 326,  
Mechanical Engineering,  
The City College of New York  
Tel: (212) 650-5728  
Fax: (212) 650-6660  
Email: [banerjee@che.ccny.cuny.edu](mailto:banerjee@che.ccny.cuny.edu)





# PROFILES OF DEPARTMENTS





# Department of **CHEMICAL ENGINEERING**

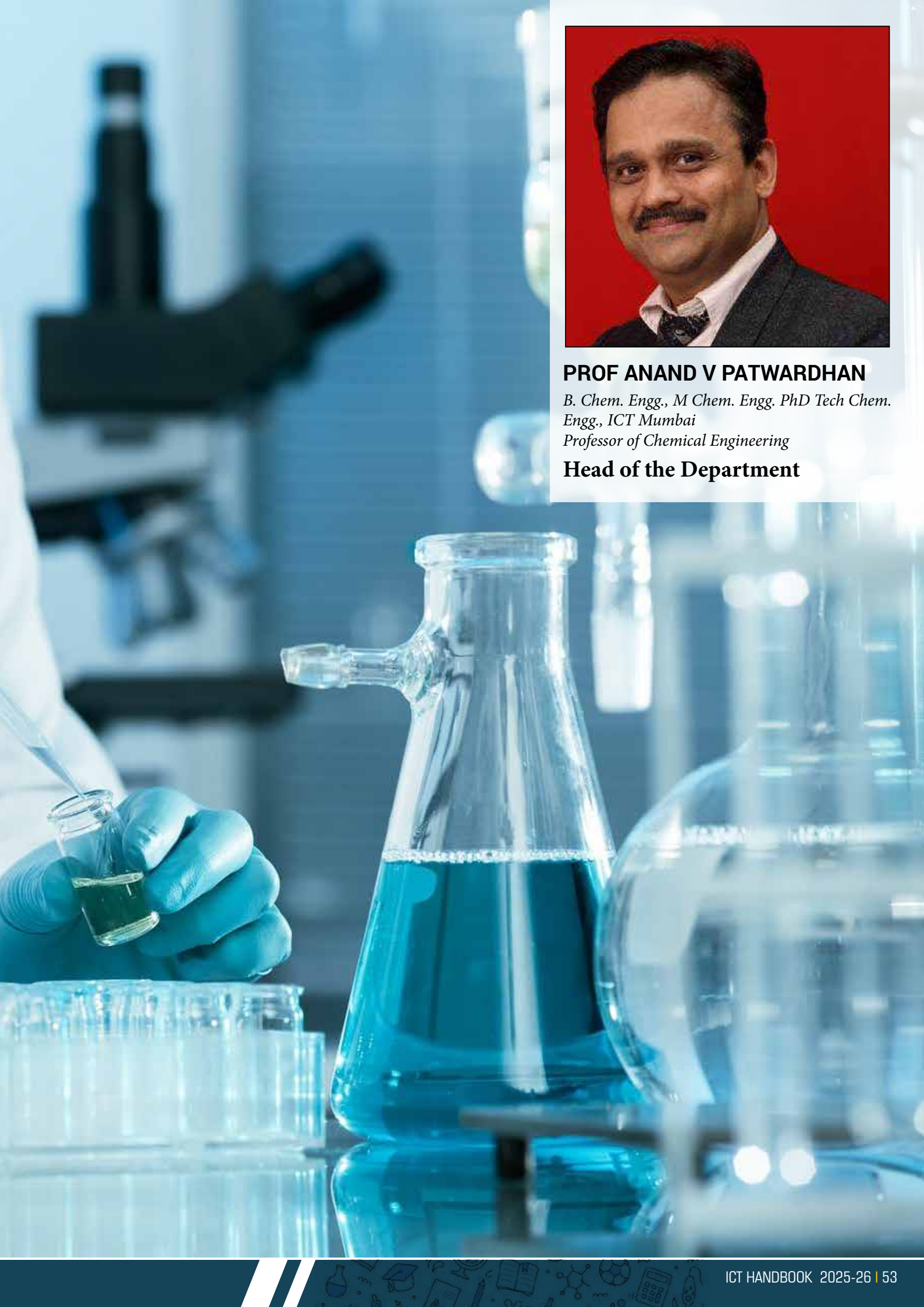


## **PROF ANAND V PATWARDHAN**

*B. Chem. Engg., M Chem. Engg. PhD Tech Chem.  
Engg., ICT Mumbai*

*Professor of Chemical Engineering*

**Head of the Department**





## 2.1 DEPARTMENT OF CHEMICAL ENGINEERING



### VISION :

We will strive to be a vibrant department, with continuously evolving curricula and programmes that will charter the future of chemical, biological, materials and energy industries of the nation and be on par with the very best in the world through the participation and scholarship of our faculty, and students who will be torch bearers in education and research and have great impact in solving societal needs for the benefit of mankind at large.

### MISSION :

We will create an atmosphere conducive to generate new knowledge at every opportunity for our students at large. Our education will enable new chemical engineering solutions to meet the need of all segments of society with regard to material and energy, while protecting the environment and conserving the natural resources. Our endeavors will enhance the public welfare. Our activities will not be limited to class-rooms but will extend to a greater multi and cross disciplinary platform to conduct research, discovery, technology development, service to industry and entrepreneurship in consonance with India's aspiration to be a welfare state. We will team chemical engineers with professionals in other disciplines to arrive at better solutions. We will provide all students with a strong foundation in chemical engineering and applied sciences to encourage them to be our ambassadors at national and international level, in whatever professional activity they undertake to serve the society. Through our vision, we will serve the chemical engineering profession and society and strive to reach the summit as a team and stake-holders and as role models to the younger generation.

### What is Chemical Engineering?

Chemical engineering is one of the most versatile branch of engineering that applies scientific and mathematical principles to design and develop processes by which available chemicals can be converted into a variety of useful products. Chemical Engineering is applicable to a wide range of technologies, including the production of energy, materials, electronics, and pharmaceuticals, the processing of food, and environmental protection as well as remediation. The development of high quality materials, products and large scale processes is the testimony of an industrialized nation and every nation tries to build its foundation on the strong pillars of Chemical Engineering profession which cuts across several chartered and unchartered territories of human civilization. Thus Chemical engineering is practised from nano scale to mega scale, from food / pharma to nuclear engineering from mineral/ mining to silicon (high

purity grade). The subjects of energy, environment and sustainability are very much integral part of Chemical Engineering as Chemical engineering fundamentals are used to solve problems related to pollution, hunger and sustainable living (housing and modern farming).

### Modern Chemical Engineering

The modern discipline of chemical engineering encompasses much more than just process engineering. Chemical Engineering is highly science based discipline and is the most versatile and accommodative branch of engineering among all. Chemical Engineering work on scales from atom to atmosphere and are involved in all possible human activities which process materials and energy. Human body is the best example of applications of principles of Chemical Engineering. Kitchen uses all sorts of unit operations familiar to Chemical Engineering. All transport phenomena are unified due to Chemical Engineering. Chemical engineers are now engaged in the development and production of a diverse range of products, as well as in commodity and specialty chemicals. These products include high performance materials needed for aerospace, automotive, biomedical, electronic, environmental, and space and military applications. Examples include ultra-strong fibres, fabrics, adhesives and composites for vehicles, bio-compatible materials for implants and prosthetics, gels for medical applications, pharmaceuticals, and films with special dielectric, optical, or spectroscopic properties for opto-electronic devices. Additionally, chemical engineering is often intertwined with biology and biomedical engineering. Many chemical engineers work on biological projects such as understanding biopolymers (proteins) and mapping the human genome.

A new paradigm of “borderless chemical engineering science” is emerging. The demands from the society on ‘cleaner’ technologies rather ‘clean-up’ technologies, the emergence of ‘performance chemicals and materials,’ etc., is driving the profession towards achieving a symbiotic relationship with other disciplines. It has always been dealing with pollution prevention, atom economy,



recycle, as the Solvay process would suggest. The term ‘green chemical engineering’ as a mantra for sustainable development and responsible care is at the centre-stage for all activities related to



chemical engineering. Future course of an engineering discipline is reflected in current research areas within its folds. The expedition ahead for Chemical Engineering, based on the research profile of Chemical Engineering schools world over suggests that it is embracing biology, bio-engineering, tissue engineering, bio-processing, green chemistry and green engineering, and material science and nanotechnology in a big way and has been a truly working on scales from atom to atmosphere. Readily available computing power is changing the nature of research activity forever. A high level of mathematics and computational methods are intertwined with chemical engineering. The advent of new measurement techniques is reducing the length scale of investigation to nano and molecular scales irreversibly in many cases. Chemical Engineering thus appears poised for a major expansion. Chemical engineers are getting directly involved in development of new products and new technologies which improve the quality of life which requires highly interdisciplinary work, new ways of treating diseases-a domain of medical practitioners only till very recently, and development of application specific materials and fluids with complex structure at various length scales.

Chemical Engineering is not just Chemistry but a discipline itself with own characteristics. A proficiency in basic sciences such as Chemistry, Physics, Biology, Mathematics and their applications is necessary to effectively conduct the molecular transformations at scales varying from thousands of tonnes to few kilograms per day in economically attractive and environmentally safe manner. Each reaction with unique characteristics gives challenging opportunities to conduct it at profitable scale to produce increasingly purer products as per market demands with minimum energy input in shortest time without producing waste or by-products. Each combination of Reaction and Reactor is, therefore, a challenge to the Chemical engineer to make it faster, simpler and cheaper.

#### Department of Chemical Engineering Upgradation of CE Lab & Safety Audit



Through the generous donation of Batch of 1968, Chem Engg lab has been upgraded. Safety Audit was conducted in various laboratories in Chem. Engg. Dept. on Dec 13, 2019 by Mr. Nilesh Vani, Safety Officer and Dr. Hubert Fernandes, Head R&D, Fevicol Adhesives, Pidilite Industries

#### Borderless and Versatile Engineering Profession

Over the few decades, Chemical Engineering has evolved developing interfaces with newer areas, including Biochemical Engineering, Nano Technology, and Energy Engineering taking advantage of developments in High performance computations, Electronics and Instrumentations

and Information Processing. Although the basic responsibility of a Chemical engineer remains in design, testing, scale-up, operation and control of chemical plants, the interface helps the Chemical Engineers to enter into these newer areas at ease. Large Manufacturing facilities such as cements, petroleum refineries, oil and natural gas exploration and semiconductor Industries, biofuels and biotransformations, nuclear reactors, all involve Chemical engineering operations. Chemical engineers find good job opportunities in a wide spectrum of industries involving speciality chemicals, pharmaceuticals, drugs, polymers, textiles, paints, dyes, vegetable oils and foods.

Because of excellent analytical skills Chemical Engineers(CE) can work in areas from chemoinformatics to bioinformatics, drug delivery systems, molecular modelling, to handling systems from nanoscales to global scales for environmental impact and climate change. The versatility of Chemical Engineering education, therefore, makes a wide choice of career options available to the CE candidates. There is a huge scope for higher studies in Chemical Engineering because of highly science based discipline and requirement of RandD in the country. All B.Tech. courses in ICT have much wider base in Chemical Engineering including subjects like Material and Energy Balance, Separation Processes, Heat and Mass Transfer, Chemical Reaction Engineering, Thermodynamics, Process Control, Chemical Process Industries, Chemical Process Economics. Consequently, at Masters level ICT B.Tech. students from all specialisation are accepted for admissions in Western Universities and within ICT itself.

The Integrated Master of Technology with a major in Chemical Engineering and minor in other branches was thus conceived which also includes trimester system and two year's industrial/research internship. These innovative programmes will be offered at the IOC Bhubaneswar and Marathwada Campus at Jalna.

### **International Standing of Department**

The Department of Chemical Engineering is the number one Chemical Engineering Department in the Country by all the standards: teaching, research and industrial relationship, as has been rated by the international surveys conducted by Professor Jude Sommerfield of Georgia Tech., USA since 1964 for every five year period as well as every year and also during the 5-year period during 2014 which included all IITs and IISc. Besides it is among top 10 Departments in the world and in terms of productivity as measured by papers per faculty per dollar spent, it is number one in the world. The number of papers published in peer reviewed journals per faculty is also the highest in India. The FIST programme of DST has revealed that the Chemical Engineering Department is the Best Department in all engineering Departments in India.

This is again the record which has been held due to the research contributions of faculty in international journals of repute. The value and impact of our research is reflected in highest number of papers per faculty member, highest impact factor per paper, and highest number of citations for papers of Chemical Engineering Department. The Department is recognized as the UGC Centre for Advanced Studies for a record time since 1989 and as UGC Networking Resource Centre in Chemical Engineering, since 2008; only one of its kind and further supported by DST-FIST programme with state-of-the-art research facilities.

The faculty has been acting as consultants to industry and the earnings are the highest for any engineering Department in India.

### **Connectivity with Industry**

Collaborative Academic Programs have been initiated with international institutes such as Purdue University, Kansas University, University of Saskatchewan, ICGEB, and, CSIR labs. Many foreign universities have shown interest in collaborating with Chemical Engineering faculty, and the most striking is a string of Canadian Universities desirous of signing MOUs with this Department. The dual Ph.D. degree programme in Chemical Engineering with Michigan State University, USA is the highlight of this year.

### **Accolades and Awards**



The last three Vice-Chancellors / Directors of ICT have been bestowed upon with Padma awards with Prof. Yadav being awarded Padmashree in Jan' 16. Two former Directors of CSIR labs are currently Distinguished Professors in Chemical Engineering Department which is also unique. A number of awards have come to the faculty members in Chemical Engineering including Jagdish Chandra Bose National Fellowship, fellowships of Indian National Science Academy, Indian Academy of Sciences, National Academy of Sciences in India, Indian National Academy of Engineering and Indian Institute of Chemical Engineers. Not only faculty members but students also have bagged a number of awards. Even home paper or design papers of the final year students have been repeatedly rated as the best by the Indian Institute of Chemical Engineers and the Ambuja Cement and Sir P. C. Ray Awards have come several times to ICT which itself is a record. All these awards recognize excellence in the field of Chemical Engineering. The ICT has also received the award for being 'The Best Industry Related Institute in Chemical Engineering' from the confederation of Indian Industries and the All India Institute of Technical Education.

### **Employment Opportunities**

Our graduates, numbering over 30-35 per year are accepted with full fellowships in leading universities including MIT, Minnesota, UCB, Caltech, Wisconsin-Madison, Princeton, Stanford, Texas A and M, University of Texas, University of Delaware, Purdue University, and many more. All students are placed in some of the leading industries in India, with salaries ranging from Rs. 3.5 lakhs to Rs. 15.5 lakhs per annum and these are hard core industries and not the software companies. Several leading industrialists and owners of fortune-500 company owners are our graduates, including top planners and policy makers, who have been bestowed with Padma awards.

### **Research Interests of Faculty**

The Chemical Engineering faculty has been well known for their publications in peer reviewed high impact factor journals, patents and industrial consultations in a variety of research interests.

Major Thrust of Research Areas : Development of Novel Reactors, Reactions and Separation Processes Analysis of Multiphase Phenomena, Computational Fluid Dynamics for Multiphase Systems, Novel Catalytic Materials and Processes, Surfactant Science and Hydrotrophy, Organic Chemical Processes Development, Biotechnology and Downstream Processing, Adsorptive and Chromatographic Separations, Green Chemistry, Engineering and Technology, Cavitation Phenomena, Sonochemistry, Membrane Based Separation Processes, Bio-Technology and Bio-medicines, Environmental Protection and Safety, Nanoscience and Nano-Technology, Nano Technology, Materials Technology

In the global context, the priority research areas as identified by the Chemical Engineering Department are:

Multiphase reactions, multiphase reactors and separation processes

Energy engineering with an emphasis on the renewable energy resource

### **Laboratory and Research Facilities**

All Chemical Engineering laboratories and faculty offices have been remodeled during past 5 years. The labs are equipped with state-of-the-art instruments and have gone a total face-lift. UG students are provided computational facility in the main laboratory, including latest software required for modeling and simulation. Some of the sophisticated equipment which have been acquired and used continuously are: GC-MS, LC-MS, SEM, TEM, AFM, IC, FTIR, HP-TLC, HPLC, GC, XRD, DSC, DTA/TGA, AAS, Laser-Doppler anemometer, image analysers, pore and particle size analysers, autoclaves of different sizes and MOCs, catalyst screening bench-top autoclave assembly, supercritical fluid phase monitor and reactor, microwave reactors, computer workstations, laminar flow apparatus, fermenters, and many others. Advanced instrumental facilities have been created under industry sponsored projects as well. The new campuses will also be provided with sophisticated instrumental facilities including Ph.D. fellowships.



### **Fellowships**

Twenty Ph.D. fellowships under ICT-DAE Centre for Chemical Engineering Education and Research. Several projects are secured by the faculty in the areas of expertise from central agencies such as DST, DBT, CSIR, including Indian and foreign companies; this number varies from year to year. Interested candidates must appear for the entrance examination for a Ph.D. degree, whether funded government or industry. For GATE qualified students fellowships are offered at the UGC rate and others as per the provision of the funding. No student is admitted to any Ph.D. programme.

Apart from Master of Chemical Engineering programme, the department also participates in two interdisciplinary M.Tech. courses - Perfume and Flavour Technology, Green Technology and Bioprocess Technology. At least 19 Masters fellowships offered for GATE qualified students in the first round and typically this number is around 30+ when the admissions are closed. Besides, about 10-15 M. Tech. students in Bioprocess Technology (with a special reference to downstream processing), Food Biotechnology, Pharmaceutical Biotechnology, Perfumery and Flavour Technology work under the guidance of Chemical Engineering faculty.

### **Interdisciplinary and Cross Disciplinary Programmes**

Several faculty members guide Ph.D. students in all disciplines of Chemistry and Biotechnology, as well as in all branches of Chemical Technology on inter-disciplinary topics and several chemistry graduates have benefitted by their training in the Department of Chemical Engineering.

### **Visiting Faculty Endowments**

There are several endowments created to invite the best of professionals and academics to the ICT. Some eminent faculty from institutes such as MIT, Purdue, Cambridge, Monash University, University of California, Berkeley, University of California, Santa Barbara, National University of Singapore, Montreal, University of Michigan, Michigan State University, University of Alberta, RMIT Australia, IIT-Chicago, Cambridge University, University of Manchester, IIT-Bombay, IIT-Kanpur, IIT-Madras, National Chemical Laboratory, have taught UG and PG courses in ICT under these endowments.

These lectures form part of audit courses for research students. Besides, public lectures are organized under each endowment.





**PROF. ANAND V. PATWARDHAN**  
*Ph.D. (Tech.) Chemical Engineering*  
**Head, Department of Chemical Engineering and Senior Professor**

**Department : Chemical Engineering**

**SUBJECTS TAUGHT:**

Transport Phenomena, Chemical Reaction Engineering, Chemical Engineering Operations, Advanced Momentum Transfer, Green Technology, Advanced Membrane Separations, Advanced Mass Transfer

**RESEARCH INTERESTS:**

Membrane separation (separation/recovery of chemicals/metals from industrial streams; development of ceramic membranes for industrial applications), Green Technology (ionic liquids for solvent extraction/ reactions; value-added chemicals from non-edible oils; greener organic chemical process development), Bioprocess Technology (synthesis of chemicals and microbial colorants/pigments), Heterogeneous reactions

**Recognized Research guide for:** Ph.D. (Tech.) Chemical Engineering, Ph.D. (Tech.) Bioprocess Technology, Ph.D. (Science) Chemistry, Ph.D.(Green Technology), Guided Students: 75, Ph.D.: 23, Masters: 61, PDF, If any: 0, National: 61, International: 85, Patents: 2, **H-Index:** 29, **Citations:** 3758

**PROF. SUNIL S. BHAGWAT**

*Ph.D. (Tech.)*

**Professor of Chemical Engineering**

**Department: Chemical Engineering**

**SUBJECTS TAUGHT:**

Chemical Engineering Thermodynamics I, Chemical Engineering Thermodynamics II, Interfacial Science and Engineering.

**RESEARCH INTERESTS:**

Interfacial Science and Engineering, Micro-emulsions, Energy and Exergy Engineering, Absorption Cycles, Utilization of low grade energy, applications of artificial neural networks

**Recognized Research guide for:** Ph.D. (Tech.) in Chemical Engineering, Bioprocess Technology, Ph.D. (Science) in Chemistry, Guided Students: 128, Ph.D.: 44, Masters: 84, PDF, If any: 0, National: 10, International: 101, **Patents Published:** 11, **H-Index,** 23, **Citations:** 1976



**DR. VISHWANATH H. DALVI**

*Ph.D.( Austin, USA)*

**Central Placement Coordinator, Associate Professor**

**Department: Chemical Engineering**

**SUBJECTS TAUGHT:**

Process Simulation Laboratory, Advanced Mass Transfer, Mathematical Methods in Chemical Engineering, Optimization Methods in Chemical Engineering, Data analysis

**RESEARCH INTERESTS:**

Molecular Simulations, Process Modeling and Simulations, Solar Thermal Systems, Renewable energy

**Recognized Research guide for:** Ph.D. (Tech) in Chemical Engineering Guided Students: 28, Ph.D: 8, Masters: 20, PDF, If any: 0, National: 0, International: 44, **Patents Published:** 7, **H-Index:** 16, **Citations:** 1175, **Patents Granted:** 7

**NATIONAL AND INTERNATIONAL AWARDS: 1**

**PROF. VILAS G. GAIKAR, F.N.A.E.**

*Ph.D. (Tech.)*

**Bharat Petroleum Distinguished Professor**



**Department:** Chemical Engineering

**SUBJECTS TAUGHT:**

BioReaction Engineering, Biochemical Engineering, Chemical Process Control, Instrumentation and Process Dynamics

**RESEARCH INTERESTS:**

Renewable Energy Resources, CO<sub>2</sub> Reduction to Chemicals, Molecular Simulation, Chemical Process Development and Engineering, Clean Technology, Hydrotropy and Interfacial Sciences, Reactive Separations,

**Recognized Research guide for:** Ph.D. (Tech.) in Chemical Engineering, Bioprocess Technology, Green Technology and Ph.D. (Science) in Chemistry, Green Technology

**Guided Students:** 147, Ph.D.: 51, Masters: 93, PDF, If any: 3, National: 4, International: 191, **Patents**

**Published:** 11, **H-Index:** 35, **Citations:** 4461(Scopus), 5276 (Google Scholar), **Patents Granted:** 8

**NATIONAL AND INTERNATIONAL AWARDS:**

- Elected as Eminent Engineer, Institution of Engineers (India), (2019); • Elected Fellow, Indian National Academy of Engineering (2008); • Elected Fellow, Maharashtra Academy of Sciences (2004); • Distinguished Alumnus Award, Institute of Chemical Technology (2016); • Acharya P C Ray Memorial Lecture, Institution of Engineers (India), (2019); • IICHe - D.O.S.T. Dr. S.K. Sharma Medal (2014); • IICHe - CHEMCON Distinguished Speaker Award (2014); • IICHe - Herdillia Award for Excellence in Basic Research in Chemical Engineering (2004); • Best Teacher Award, University of Mumbai (2002); • Young Scientist Medal, Indian National Science Academy, New Delhi (1992); • Young Associate, Indian Academy of Sciences, Bangalore (1992-95); • Young Associate, CSIR, New Delhi (1992-95); • UGC Career Award (1994-97)



**PROF. PRAKASH D. VAIDYA, FMASc, FICS**

*B. E. (Chem. Engg.), M. Chem. Engg., Ph.D. (Tech.) in Chem. Engg.*

**CONTROLLER OF EXAMINATION, PROFESSOR**

**SUBJECTS TAUGHT:**

Chemical Reaction Engineering, Environmental Engineering & Process Safety, Innovations in Chemical Engineering & Technology

**RESEARCH INTERESTS:**

Process Intensification (sorption-enhanced reaction processes), Reactive Separations (carbon dioxide capture by reactive absorption), Catalysis, Kinetics and Reaction Engineering (biomass conversions, chemical recycling of carbon dioxide and wastewater treatment), Process Development (oxidation and hydrogenation reactions)

**Recognized Research guide for:** Recognized Research guide for: Ph.D. (Tech.) in Chem. Engg., Ph.D. (Tech.) in Green Tech., Ph.D. (Sci.) in Chemistry

**Guided Students:** 98, Ph.D.: 33, Masters: 62, PDF, If any: 3, National: 1, International: 140, **Patents Published:** 4, **H-Index:** 36, **Citations:** 5950, **Patents Granted:** Granted (in last 5 years): 2

**NATIONAL AND INTERNATIONAL AWARDS:**

- IICHE's Dr. A V Ramarao Best PhD Thesis Award 2024 to Dr. Vinayak N. Kalekar and Prof. Prakash D. Vaidya at CHEMCON in NIT Jalandhar in December 2024, • Award of Honor from Union MoP&NG to ICT and IOCL for the best R&D project funded by the Oil Industry Development Board (OIDB) under the supervision of Prof. Prakash D. Vaidya in January 2025





### PROF. PARAG R. GOGATE

*Ph.D. (Tech.)*

**Dean (Academic Programmes), Professor of Chemical Engineering**

**Department: Chemical Engineering**

#### SUBJECTS TAUGHT:

Chemical Reaction Engineering, Cavitation for Green Processes Processes, Process Calculations, Engineering Applications of Digital Computers

#### RESEARCH INTERESTS:

Sonochemistry, Hydrodynamic Cavitation, Process Intensification, Water and Wastewater Treatment, Enzymatic Reactions, Polymer Chemistry, Advanced Oxidation Processes

**Recognized Research guide for:** Ph.D. (Tech.) in Chemical Engineering, Green Technology, Bioprocess Technology; Ph.D. (Science) in Chemistry; Masters in Chemical Engineering, Green Technology, Bioprocess Technology, Guided Students: 110, Ph.D. : 29, Masters: 81, PDF, If any: 0, National: 17, International: 450, **Patents Published:** 2, **H-Index:** 89, **Citations:** 28010, **Patents Granted:** 3

#### NATIONAL AND INTERNATIONAL AWARDS

- Rajib Goyal Prize, 2018
- Fellow, Indian National Academy of Engineering, 2019
- Invitational Research Fellowship of Japan Society for the Promotion of Science (JSPS), 2020
- Fellow, Institution of Chemical Engineers, UK, 2020
- UGC Mid Career award by University Grants Commission, New Delhi, 2020
- Mention in the Top 2% Scientists in the world in the area of Chemical Engineering (first in India) in analysis by Stanford University, 2020, 2021, 20222
- Fellow, Indian Chemical Society, 2021
- Fellow, The Institution of Engineers (India), 2021
- Dr K Anji Reddy Innovator of the Year in Chemical Engineering & Technology in India by Indian Institute of Chemical Engineers, 2021
- Malviya Memorial Award for Teaching faculties (Senior faculty) of Biotech Research Society India, 2021
- Outstanding Professor Award given by Indian Specialty Chemicals Manufacturing Association, 2015, 2018, 2022
- Fellow, The National Academy of Sciences in India, 2023
- Fellow, Indian Institute of Chemical Engineers, 2023
- Associate Fellow, Indian National Science Academy, 2024

### Dr. SACHIN JADHAV

*Ph.D. (Tech.)*

**Co-Ordinator, Certificate Course of Chemical Safety and Risk Management ASSISTANT PROFESSOR**

**Department: Chemical Engineering**

#### SUBJECTS TAUGHT:

Chemical Process Control, Chemical Engineering Operations, Chemical Engineering Laboratory, Separation Processes, Research Methodology

#### RESEARCH INTERESTS:

Water and Wastewater Treatment, Membrane-based Separation, Nanomaterials and their Applications, Advanced Separation Processes, Waste Valorization, Chemical and Enzymatic Kinetics, Process Dynamics and Control, Drying, Sustainability Analysis

**Recognized Research guide for:** M.Chem. Engg., PhD (Tech) in Chem. Engg.

Guided Students: Masters: 8, PDF, If any: 0, National: 1, International: 20, **H-Index:** 11, **Citations:** 900,





**DR. KUMUDINI V. MARATHE**

*Ph.D (Chemical Engg)*

**Professor**

**Department:** Chemical Engineering

**SUBJECTS TAUGHT:**

Material Science and Engg, Advanced Materials, Ind. Engg Chemistry

**RESEARCH INTERESTS:**

Waste water treatment, membrane separation, ground water treatment, membrane bioreactor, electrochemical membrane bioreactor, sustainability assessment, exergy analysis.

**Recognized Research guide for:** Ph.D in Chemical Engineering and Green Technology

**Guided Students:** 44, **Ph.D.:** 4, **Masters:** 40, **PDF, If any:** 0, **National:** 48, **International:** 37, **Patents Published:** 0, **H-Index:** 17, **Citations:** 1928, **Patents Granted:** 0,

**PROF. LAKSHMI KANTAM MANNEPALLI**

*Ph.D. (Sci), (FNA, FTWAS, FNASc, FRSC, FMASc)*

**Dr. B. P. Godrej Distinguished Professor of Green Chemistry and Sustainability Engineering; (Former Director, CSIR-IICT, Hyderabad)**



**Department:** Chemical Engineering

**SUBJECTS TAUGHT:**

Interfacial Science and Engineering, Nano Materials

**RESEARCH INTERESTS:**

Catalysis, Materials and Process Chemistry, Nanotechnology

**Recognized Research guide for:** Chemistry and Chemical Engineering

**Guided Students:** 66, **Ph.D.:** 42, **Masters:** 9, **PDF, If any:** 15, **International:** 360, **H-Index:** 72, **Citations:** 17943, **Patents Granted:** 52

**AWARDS:**

- 2022- Fellow of Indian National Academy of Engineering, India
- 2019- Goyal Award, Applied Sciences, Kurukshetra University, Kurukshetra, 2019- ICC -D.M.Trivedi Life time Achievement Award
- 2018-TWAS Fellow, Chemistry and Sustainability Engineering
- 2015-J.C.Bose Fellow (SERB-DST), 2015- Eminent Scientist Award Catalysis Society of India; 2015- Dr.Burjor P. Godrej Distinguished Professor of GreenEngineering
- 2014-Fellow of the Indian National Science Academy; India,
- 2013 Fellow of The Royal Society of Chemistry, UK;
- 2011- Vasvik Award; 2011 - Lifetime Achievement Award, Indian Chemical Society;
- 2010 - Platinum Jubilee Lecture Award, ISC-2010;
- 2008 Fellow of National Academy of Sciences, India;
- 2006- Fellow of Andhra Pradesh Academy of Sciences, Hyderabad

**Dr. C.S. MATHAPATI**

*B.Chem.Engg., M.Chem.Engg., Ph.D (Tech)*

**Associate Dean (Internal Quality Assurance), Associate Professor**

**SUBJECTS TAUGHT:**

Multiphase Reactors, Process Simulation Laboratory, Bioreactor Design and Control, Advanced Flow Visualization Techniques.

**RESEARCH INTERESTS:**

Computational Fluid Dynamics, Multiphase Flow, Reactor Design, Interface Heat and Mass Transfer

**Recognized Research guide for:** Ph.D. (Tech) in Chemical Engineering, Guided Students: 39, Ph.D.: 14, Masters: 25, PDF, If any: 0, National: 0, International: 65, **Patents Published:** 0, **H-Index:** 17,

**Citations:**1400, **Patents Granted:** 3

**NATIONAL AND INTERNATIONAL AWARDS: 5**



**DR. PARAG R. NEMADE**

*B. Chem. Engg., M.S. Chem. Engg. and Ph.D. Chemical Engineering (U. Colorado, Boulder, USA)*

**Associate Professor of Chemical Engineering; Deputy Director (ICT Marathwada Jalna Campus)**

**SUBJECTS TAUGHT:**

Advanced Membrane Separations, Nanotechnology, Advanced Momentum Transfer, CE Lab, Introduction to Chemical Engineering, Materials and Energy Balance Calculations, Chemical Engineering Thermodynamics I, Momentum Transfer

**RESEARCH INTERESTS:**

My group works on membrane separation processes, on development of new polymeric and graphene-based materials for membranes, catalysts, and sensors applications.

**Recognized Research guide for:** PhD. (Tech) in Chemical Engineering, Oils, Oleochemicals and Surfactant Technology, Ph.D. (Sci) in Chemistry Guided Students: 37, Ph.D.: 5, Masters: 32, PDF, If any: 0, National: 1, International: 27, **Patents Published:** 3, **H-Index:** 18, **Citations:**1600, **Patents Granted:** 5

**AWARDS:**

- DAE Young Scientist Award, 2013,
- Reinvent the Toilet Challenge 2013 (Bill and Melinda Gates Foundation), Chevening Rolls - Royce science, Innovation and Leadership Fellowship 2016, Newton-Bhabha Fellowship 2017

**DR. MANISH YADAV**

*B. Chem. Eng., M. Chem. Eng., Ph.D. (Tech.) in Chemical Engineering*

**COORDINATOR M.Tech. GREEN TECHNOLOGY, ASSISTANT PROFESSOR**

**SUBJECTS TAUGHT:**

Transport Phenomena, Separation Processes, Process Development and Engg

**RESEARCH INTERESTS:**

Chemical Reaction Engineering, Nanotechnology, Crystallization, 2D-based nanomaterials

**Recognized Research guide for:** M. Chem. Engg., Ph.D. (Tech.)

Chem. Engg. Guided Students: Masters: 5, PDF, If any: 0, National: 1, International: 32, **Patents Published:** 1, **H-Index:** 12, **Citations:** 585





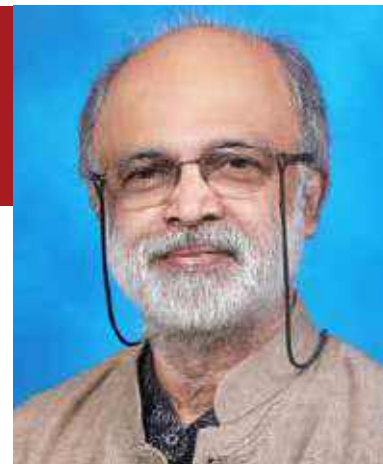
## PROF. ANIRUDDHA BHALCHANDRA PANDIT

*F.N.A., F.T.W.A.S., F.A.Sc., F.N.A.E., F.N.A.Sc., F.M.A.Sc.*

Sir J. C. Bose National Fellow, GoI (2015-2020; 2020-2025)

UGC Research Scientist 'C'

VICE CHANCELLOR, INSTITUTE OF CHEMICAL TECHNOLOGY



### SUBJECTS TAUGHT:

Chemical Project Engineering and Economics, Separations Processes

### RESEARCH INTERESTS:

Physical and Chemical Processing applications of Cavitation phenomena, Sonochemistry, Study of opportunities in industrial wastewater treatment and its reuse applications, Mixing in Mechanically agitated contactors: Experimental and CFD Investigations, Design of nozzles for hydrodynamic cavitation: Experimental and CFD Investigations, Modeling of Stoves, Optimization of cooking devices, Pyrolysis of biomass for value-added products, Microbial disinfection using hydrodynamic cavitation, Protein modification, Cell disruption, Selective recovery of intracellular biomolecules at the cell disruption stage.

**Recognized Research guide for:** Ph.D. (Tech.) in Chemical Engineering, Ph.D. (Tech.) in Bioprocess Technology, Ph.D. (Science) in Chemistry, M. Chem. Engg. in Chemical Engineering, M.Tech. in Bioprocess Technology, **Guided Students:** 175, **Ph.D.:** 65, **Masters:** 106, **PDF, If any:** 4, **National:** 131, **International:** 458, **Patents Published:** 26, **H-Index:** 88, **Citations:** 26606, **Patents Granted:** 9

### NATIONAL AND INTERNATIONAL AWARDS:

1. Fellow, National Academy of Engineering US, 2023
2. Fellow, The World Academy of Sciences, 2015
3. Fellow, National Academy of Sciences in India, Allahabad, 2009
4. Fellow, Indian National Science Academy, 2008
5. Fellow, Indian Academy of Sciences, 2008
6. Fellow, Indian National Academy of Engineering, 2006
7. Fellow, Maharashtra Academy of Sciences, 1996



## Dr. MANDAR P. BADVE

*Ph.D (Tech)*

Assistant Professor

### SUBJECTS TAUGHT:

Chemical Engineering Operations, Chemical Engineering laboratory

### RESEARCH INTERESTS:

Foam/emulsion dynamics and rheology, Process intensification, Wastewater treatment, Bioreactor design and scale-up, Bio-catalysis, Downstream processing

**Recognized Research guide for:** Chemical engineering

**Guided Students:** 9, **Ph.D.:** 0, **Masters:** 9, **PDF, If any:** 0, **Publications:** National: 2, International: 14, **Patents Published:** 0, **H-Index:** 9, **Citations:** 1200, **Patents Granted:** 0

### NATIONAL AND INTERNATIONAL AWARDS:

- DST INSPIRE Faculty award



**PROF. ASHWIN W. PATWARDHAN**

*B.Chem. Engg., M.S. Ph.D. (Tech) in Chemical Engineering*

**Dean (IQAC) and Professor of Chemical Engineering**

**SUBJECTS TAUGHT:**

Momentum and Mass Transfer, Advanced Reaction Engineering, Material and Energy Balance Calculations, Advanced Separation Processes, Chemical Engineering Thermodynamics

**RESEARCH INTERESTS:**

Computational Fluid Dynamics, Transport Phenomena, Membrane Separation Processes, Liquid Extraction

**Recognized Research guide for:** Ph. D. (Tech.) and Ph. D. (Sci.)

Guided Students: 91, Ph.D.: 33, Masters: 58, PDF, If any: 0, National: 0, International: 153, **Patents Published:** 0, **H-Index:** 35, **Citations:** 3834, **Patents Granted:** 3

**AWARDS:**

• Fellow, Maharashtra Academy of Sciences 2012; • Herdillia Award of I.I.Ch.E. for excellence in Basic Research 2013. • Prof. M. M. Sharma Science and Technology Award 2016, • Fellow, Indian National Academy of Engineering, 2019 • UAA-ICT Distinguished Alumnus Award – Academics, 2023, • VASVIK Award 2023

**PROF. VIRENDRA K RATHOD**

*Ph.D. (Tech.)*

**Department of Chemical Engineering**

**Department: Chemical Engineering**

**SUBJECTS TAUGHT:**

Heat Transfer, Advance heat transfer, separation processes, Fluid flow and Heat transfer, Multiphase Reactor, Chemical Reaction Engineering, Material & Energy Balance calculation, pharmaceutical Engineering, Chemical Engineering Laboratory, Unit operation

**RESEARCH INTERESTS:**

Separation process, Extraction of Natural ingredients, Enzyme catalyzed reactions, Waste Treatment, Catalysis, Separation of biomolecules, Life cycle assessment & sustainability, Enzyme Preparation, modification and separation, Nanomaterial synthesis, Utilization of waste to value added products

**Recognized Research guide for:** Ph.D. (Tech.) in Chemical Engineering,

Bioprocess Technology, Green Technology, Ph.D. (Science) in Chemistry

Guided Students: 172, Ph.D.: 40, Masters: 120, PDF, If any: 12, National: 1,

International: 262, **Patents Published:** 1, **H-Index:** 59, **Citations:** 12,125,

**Patents Granted:** 1

**NATIONAL AND INTERNATIONAL AWARDS:**

• Fellow of IICChE; • Fellow Biotech Research Society of India; • Fellow Maharashtra Academia of Sciences; • Fellow of Indian Chemical Society; • Hindustan Lever Biennial Award for the Most Outstanding Chemical Engineer of the Year (Under the age of 45 Years); • Dr K Anji Reddy Innovator of the Year in Chemical Engineering & Technology in India by Publishing in the Reputed International Journal in Chemical Engineering & Bio-Technology/ Patents of Merit; • Prof. M Sharma award for Science and Technology given by Marathi Vidnyan Parishad, Mumbai; • Best Professor contributing in Research award by C. B. Murarka charitable trust; • Outstanding Professor Award given by Indian Specialty Chemicals Manufacturing Association.





**Dr. YOGESH H SHINDE**  
Ph.D. (Chemical Engg)  
**ASSISTANT PROFESSOR**

**SUBJECTS TAUGHT:**

Chemical Engineering Laboratory

**RESEARCH INTERESTS:**

Waste Valorization, Life Cycle Assessment, Computational Fluid Dynamics, Multiphase reactor design, Solar energy, Bioenergy

**Recognized Research guide for:** M. Chem. Engg., PhD (Tech) in Chem. Engg. PDF, If any: 0, National: 0, International: 16, **Patents Published:** 0, H -Index: 11, **Citations:**333, **Patents Granted:**2

**PROF. BHASKAR N. THORAT**

B.Chem. Eng, M.Chem. Eng, D.H.S.T., Ph.D. (Tech)

**SENIOR PROFESSOR OF CHEMICAL ENGINEERING**

**SUBJECTS TAUGHT:**

Basic Course in Entrepreneurship & Advanced course in Entrepreneurship Chemical Engineering Operations, Perspective of Society, Science & Technology, Separation Processes, Environmental Engineering and Pollution Control

**RESEARCH INTERESTS:**

Drying Technology and Particle Handling, Process Development, Multiphase Reactors, Industrial Crystallization and Filtration, Food Processing, sustainability

**Recognized Research guide for:** Ph.D. (Tech.) in Chemical Engineering, Biotechnology, Ph.D. (Science) in Chemistry

**Guided Students:** 112, **Ph.D.:** 36, **Masters:** 69, **PDF, If any:** 7, **National:** 3, **International:** 157, **H-Index:** 28, **Citations:**2893, **Patents Granted:**5,

**AWARDS:**

- Zayed Sustainability Award, UAE's pioneering global Award 2021 for startup;
- Gunther Oertel Startup Innovation Award for Microbutor Innovation, Covestro, (Former Bayer Material Science, Germany), 2017;
- Millennium Alliance Award by UKAID (DFID) and FICCI: Solar Conduction Dryer Scale-up in Nepal, 2016;
- Millennium Alliance Award by UKAID (DFID) and FICCI: CassavaTech scale up in Kenya, 2016;
- Lifetime Achievement Award for Outstanding Contribution to Drying and Dehydration, given by atADC-2019;
- NOCIL AWARD for excellence in design of new equipment and process, 2015;
- The VASVIK Award for the year 2012 in the field of Chemical Sciences and Technology, 2015;
- Bill and Melinda Gates Foundation Award of USD 100,000 (One Lakh US Dollar) each for Innovative Cassava Dryer, and Solar Grain Dryer 2013;
- Dell Social Innovation Award of USD 60,000 for developing "Solar Conduction Dryer" 2013;
- Vocational Excellence Award, for his valuable contribution to Science and Society for making Solar Conduction Dryer for the Agricultural Sector, Rotary Club of Mumbai Cuffe Parade, 2013.







**PADMASHRI PROFESSOR GANAPATI D. YADAV**

*B. Chem. Eng. (Mumbai, 1974). Ph.D. (Tech.) (1980), N.A.E. (US), F.N.A.I. (US), F.T.W.A.S., F.N.A., F.N.A.Sc., FASc, FNAE, Ch.E., F.I.Chem.E. (UK), F.M.A.Sc., F.I.I.Ch.E., F.I.C.S. F.R.S.C. (UK), F.I.S.T.E, F.B.R.S.I.*

**National Science Chair (SERB/Govt. of India) & Emeritus Professor of Eminence**

**Former R. T. Mody Distinguished Professor & Former Tata Chemicals Darbari Seth Distinguished Professor of Leadership & Innovation and Former Vice Chancellor**

**Former Jagdish Chandra Bose National Fellow (DST-GOI)**

**Adjunct Professor, RMIT University, Australia, University of Saskatchewan, Canada,**

**Conjoint Professor, University of New Castle, Australia, Distinguished Adjunct Professor, IIT Guwahati, Distinguished Visiting Professor, SOA University, Bhubaneswar**

**SUBJECTS TAUGHT:**

Fundamentals of Green Chemistry and Technology

**RESEARCH INTERESTS:**

Green Chemistry and Engineering, Catalysis, Chemical Engineering, Energy Engineering, Biotechnology, Nanotechnology, and Development of Clean and Green Technologies, Net zero goal, green hydrogen production technology, carbon dioxide refineries and valorization of (waste) biomass and waste plastics

**Recognized Research guide for:** Ph.D. (Tech.) in Chemical Engineering, Bioprocess Technology, Food Biotechnology, Pharmaceutical Biotechnology, Green Technology, Ph.D. (Science) in Chemistry

**Guided Students:** 298, **Ph.D.:** 108, **Masters:** 142, **PDF, If any:** 48, **National:** 525, **International:** 505, **Patents Published:** 0, **H-Index:** 68, **Citations:** 16700, **Patents Granted:** 121

**NATIONAL AND INTERNATIONAL AWARDS:**

- Fellow of Several National and International Organizations ;
- Awarded PADMASHRI by the Government of India on 28th March 2016.
- Only second Indian to be elected as Fellow of US National Academy of Inventors (2022), and one among 21 Indians Elected to the US National Academy of Engineering



**PADMA BHUSHAN PROFESSOR J. B. JOSHI**

*B.Chem.Eng. (Mumbai, 1971), M.Chem.Eng. (Mumbai, 1972), Ph.D. (Tech.) (Mumbai, 1977), FNA, FTWAS, FASc, FNAE, FMASc,*

**Foreign Member US National Academic of Engineering**

**Distinguished Emeritus Professor, Homi Bhabha National Institute;  
Emeritus Professor of Eminence Institute of Chemical Technology.**

**SUBJECTS TAUGHT:**

Multiphase Reaction Engineering

**RESEARCH INTERESTS:**

Multiphase Reactor Design, Computational Fluid Dynamics,  
Nanomaterials, Solar Energy, Nuclear Energy, Bio-Energy

**Recognized Research guide for:** Ph.D. (Tech) in Chemical  
Engineering

**Guided Students:** 197, **Ph.D.:** 123, **Masters:** 60, **PDF, If any:** 14,  
**National:** 0, **International:** 644, **Patents Published:** 0, **H-Index:** 84,  
**Citations:**28646, **Patents Granted:**0

**NATIONAL AND INTERNATIONAL AWARDS:**

- Padma Bhushan (Govt. of India, 2014),
- Shantiswarup Bhatnagar Prize (Engineering Sciences, 1991) ;
- Eminent Engineer Award (Engineering counsel of India, 2018) ;
- Emeritus Professor of Eminence (Institute of Chemical Technology, 2019).



# Department of SPECIALITY CHEMICALS TECHNOLOGY





**PROF. GANAPATI S.  
SHANKARLING**

*B.Sc. (Hon), B.Sc. (Tech.), M.Sc. (Tech.),  
Ph.D. (Tech.)*

**Professor of Speciality Chemical  
Technology**

**Head of the Department**

## 2.2 DEPARTMENT OF SPECIALITY CHEMICAL TECHNOLOGY

### VISION :

To build world class programmes of excellence in education and research in the specialized area of Speciality Chemical Chemistry and Technology for the benefit of society through problem solving competencies

### MISSION :

The department aspires to be one of the world's top color chemistry departments. It will do so by-

Providing knowledge and skilled based training at undergraduate and postgraduate level by designing, teaching, and periodically upgrading a color chemistry and technology syllabus in line with current anticipated trends in industry and academia

Pursuing world class research in colorants and related areas-basic textile and leather coloration, functional colorants, organic process technology and specialty chemicals

Proactively developing and maintaining close interaction with national and international research laboratories, universities and chemical industries

### Department of Speciality Chemicals Technology



Construction of new NMR laboratory



### ABOUT

Speciality Chemical technology department started functioning in 1944 under the stewardship of Prof. K. Venkataraman, the then director of Institute of Chemical Technology (ICT, formerly known as UDCT), University of Mumbai and is an outstanding department, an epitome of skill, talent, hard-work and success. Highly experienced scientists and scholars such as Prof. B.D. Tilak, Prof. S. V. Sunthakar, Prof. S. Seshadri, and Prof. D.W. Rangnekar have enriched this department and led to its progress. More than 1000 undergraduate students and over 450 postgraduate students have passed out from this technology department.

### RESEARCH FOCUS

Late Prof. K. Venkataraman's pioneering work on synthetic Speciality Chemical chemistry, natural colorants, structural elucidation, spectral studies and his books on "The Chemistry of Synthetic Dyes" are still popular and treated as Bible for Speciality Chemical Chemists and Technologists around the world and was translated in more than 14 languages.

The outstanding research work carried out in the department has created permanent global impact on Speciality Chemicals and allied industries especially the Indian Speciality Chemical Industry. Publications of popular informative volumes, over 1000 publications of national and International repute, have led the progress of the department.

Presently the department is more focused on functional colorants, colorants for non textile



applications and high performance pigments. These include the synthesis of laser colorants, colorants for optical information storage devices, colorants for ink-jet printing, colorants for biology, colorants for solar energy conversion and synthesis of various high performance pigments. The department is getting ready to meet the ever changing and demanding global challenges in the field of colorants and allied fields.

### HIGHLIGHTS OF COURSE

The Speciality Chemical technology department is a unique centre of learning. It offers a very advanced curriculum which produces new generation of talented color technologists as well as bright researchers. The curriculum as well as on going research synchronizes with the latest industrial and academic developments. This has led to a high quality of industry-academia relations for better technology and products.

B.Tech. course in Speciality Chemical and Intermediates emphasizes Chemistry, Technology and Engineering of organic intermediates and colorants. We equip our student with knowledge of manufacturing processes, analytical techniques and laboratory synthesis with scaling up skills.

M.Tech. course in Speciality Chemical Technology mainly focusses on the latest process technology and business management. The main aim of this course is to provide better knowledge for the student and prepare him for entrepreneurship. Thos also have 4-6 months industry internship and an extensive project work.

Our curriculum envisages developing entrepreneur skill as well as research attitude. During the curriculum students are exposed to the general engineering skills like, tool design, electrical appliances, machine drawing, etc. In addition, a detailed study of basic sciences (Physics, Mathematics, and chemistry) and chemical engineering aspects are covered. Humanity related subjects like Industrial economics, Chemical Process Economics and Industrial management are also covered during the four-year course of B.Tech. Students also have the opportunity to develop the soft skills like effective communication and software programming languages.

We have a very good track record of 100 % placement for both B.Tech. and M.Tech. course. Our department have produced about 100 first generation entrepreneurs





**PROF. GANAPATI S. SHANKARLING**

*B. Sc. (Hon), B. Sc. (Tech), M. Sc. (Tech), Ph.D. (Tech.)*

**Dean (Infrastructure and Campus), Development Professor of Speciality Chemical Technology, Co-ordinator, Perfumery and Flavor Technology, Coordinaor, ICT-NMR**



**SUBJECTS TAUGHT:**

Chemistry and technology of benzene intermediates I and II, Chemistry and technology of specialty organic intermediates and fine chemicals, Chemistry and technology of dyes and pigments, Chemistry of functional dyes, Introduction to green chemistry, Analysis of intermediates, dyes and fibres, Tinctorial chemistry lab, Experimental dying; Chemistry of functional colorants, Chemistry and technology of agro chemicals, Analysis and development of green industrial processes, Chemistry of perfumes and flavors

**RESEARCH INTERESTS:**

Green Chemistry and Technology (Homogeneous catalysts, green solvents and alternative cost effective energy sources like concentrated solar radiation and cavitation technology) Oxidation Chemistry, Functional colorants: Thermo and Photochromic, Metal sensors, Chemosensor for anions, Cucurbiturils chemistry, Process developments in Intermediates, dyes and specialty chemicals.

**Recognized Research Guide for Ph.D. (Tech)** in Speciality Chemical Technology, Green Technology, Perfumery and Flavours; **Ph.D. (Sci)** in Chemistry and Biotechnology, **Guided students:** Ph.D.20, Masters: 30, **Total Research Publications:** National: 20, International: 147, **H-Index:** 25, Citation : 2565, **Patents (granted in last 5 years) : 20**



**PROF. N. SEKAR**

*B.Sc (Hon), B.Sc (Tech), Ph.D (Tech),  
B. A. (Music), M.A. (German). M.Music*

**Professor of Tinctorial Chemistry**

**SUBJECTS TAUGHT:**

Ph. D. / M. Tech. (Course Work): Fluorescent Colorants in Bio-imaging, Chemistry and Technology of Agrochemicals, Chemistry and Technology of High Performance Pigments Chemistry and Technology of Functional Dyes, Proton Transfer Reaction. B.Tech.: Mechanisms of Organic Reactions, Chemistry of Substrates, Color Chemistry: an Introduction, Chemistry of Heterocyclic Compounds, Chemistry and Technology of Direct, Acid, and Sulphur Dyes, Analytical Instruments in Colorant Industry.

**RESEARCH INTERESTS:**

Computational Colour chemistry (DFT and TD-DFT computations), greener synthesis of multistep heterocyclic and fused heterocyclic compounds, process development of intermediates, fluorescent colorants for bio-sensors, security applications, molecular imprinting, synthesis of perfumery and flavor compounds, laser colorants, NIR absorbing, fluorescing and reflecting colorants, tinctorially strong photostable disperse dyes, colorants for DSSCs. **Recognized Research guide for Ph.D. (Tech.)** in Speciality Chemical Technology, Green Technology, Ph. D. (Science) in Chemistry, Ph.D in Textile Chemistry **Guided students:** Ph.D. 42, Masters: 24 **Total Research Publications :** National : 16 International: 324 **Cumulative impact factor:** 205, **H-Index:** 29, **Citations:** 3873, **Patents (granted in last 5 years): 07**

**AWARDS:**

- Fellow of Society of Dyers and Colourists, (UK)
- Fellow of Indian Chemical Society
- Fellow of Maharashtra Academy of Sciences



**Dr. SURAJIT SOME**  
Ph.D (IIT-Kharagpur)  
UGC-FRP Assistant Professor

### SUBJECTS TAUGHT:

M.Tech Course: Mechanism of Organic Reactions, Specialty Chemicals Chemistry and Technology, Organic Materials for Electronics. B.Tech Course: Chemistry of Heterocycles, Color Chemistry – An Introduction, Use of Analytical Instrument in Synthetic Organic Chemistry, Chemistry of Agrochemicals, Mechanism of Organic Reactions, Chemistry and Technology of benzene intermediate-I, Experimental Dyeing, Preparation of Intermediates, Preparation of Dyes, Statistical Design of Experiments, Analysis of Intermediates and Dyes and Fibers.

### RESEARCH INTERESTS:

Design and Synthesis of graphene derivatives and their applications; Flame retardants, Energy storage materials, Bio-probes, Waste stream treatment, Advanced catalysts, Semiconductor materials, Anticancer materials, Sensors and Surfactants. **Recognized Research Guide for Ph.D. (Sci) in Chemistry**, Guided students: Ph.D.: 05 (Ongoing: 06), Masters: 07 (Ongoing: 08), Postdoc: 04, Total Research Publications- International: 82, **Cumulative impact factor:** 250.92 444.89 (5.42 per publication), **H-Index:** 31, **Citation:** 3279 (39.96 per publication), **Patents (granted in last 5 years):** 13

### AWARDS:

- Research Professor Award 2020 from POSTECH, South Korea.
- Research Professor Award 2020 from GIST, South Korea.
- Research Fellow Award 2013 from National Research Foundation (NRF), South Korea.
- Best Researcher Award 2012, Sungkyunkwan University, South Korea.
- Fellowship of Creative Research Initiative (CRI) 2011, South Korea.
- Fellowship of National Research Foundation (NRF) 2009, South Korea.
- Fellowship of Postdoctoral Research Program of Sungkyunkwan University 2009, South Korea.
- Dr. D. S. Kothari Fellowship Award 2008.
- Qualified GRADUATE APTITUDE TEST IN ENGINEERING – 2004, with all India Rank 204.
- Qualified CSIR- NET for UGC fellowship and Lecturership in Chemical Sciences, Council of Scientific and Industrial Research, New Delhi, held in June 2003.



**Dr. SATYAJIT SAHA**  
*Ph.D. (Chemistry)*  
**UGC-Assistant Professor**



### **SUBJECTS TAUGHT:**

Crop Protecting Chemicals, Advances in Colorants, Introduction to Green Chemistry, Analytical Chemistry and Quality Control Techniques, Azo colorants, Heterocyclic intermediates in colorants, Reaction Mechanism and Reagent Chemistry, Chromatographic Techniques and Preparation of dyes and intermediates, Analysis of inorganic raw materials used in Speciality Chemical industry, Chemistry and Technology of Pigments, Preparation, analysis of dyes, intermediates, optical brighteners and functional colorants, Chemistry and Technology of Benzene Intermediates-I and II, Experimental Dyeing

### **RESEARCH INTERESTS:**

Organocatalytic transformations to synthesize bioactive molecules and molecules of industrial relevance, Enantioselective organocatalytic transformations, Molecular engineering via supramolecular non-covalent interactions to design AIE-active molecules for applications in sensing, imaging, and optoelectronics, Development of covalent organic polymers (COPs) for environmental remediation, gas storage, sensing, and catalysis, Diversity oriented synthesis of annelated N-heterocycles, Synthesis of organic sensitizers for Dye Sensitized Solar Cell applications and luminescent molecules for Organic Light Emitting Diodes, etc, Green chemistry and implementation of sustainable technologies in the synthesis of specialty molecules, Synthesis and development of novel molecules for fragrance and flavor industry.

**Recognized Research Guide for:** Science (Chemistry)

**Guided students:** Ph.D. : 1, Masters : 2

**TOTAL RESEARCH PUBLICATIONS:** International: 25,

**H-Index:** 12; Citations data: 801

### **AWARDS:**

- Fellow of the Indian Chemical Society-2020
- Life Member of Chemical Research Society of India (CRSI)-2020
- Editorial Board Member of Current Organocatalysis, Bentham Science (2020-2022)
- Research Excellence Award from Indian Chemical Society-2020
- ACS Journal award-2020
- SERB Young Scientist Research grant- 2015
- FWO Visiting Postdoctoral Fellowship from Belgium, 2011





**Dr. NABANITA SADHUKHAN**  
*Ph.D.*  
**UGC-FRP Assistant Professor**

**SUBJECTS TAUGHT:**

Technology of Intermediates - I, Technology of Intermediates - II, Chemistry of Functional Dyes, Analysis of Inorganic Raw Materials used in Speciality Chemical Industries, Fluorescent Colorants, Chromatography Techniques and Preparation of Intermediates and dyes.

**RESEARCH INTERESTS:**

Synthesis functional amphiphilics based on of monodisperse polyethylene glycols and their application in biology, Biologically important functional colorants, Coordination chemistry, Synthesis of organometallic molecules for functional application like OLED, Synthesis of molecular motor based fluorescent dyes for biological application namely suppression of protein aggregation and protein folding, Low molecular weight Poly Ethylene Glycols based gel for functional application and exploiting underlying supra-molecular interaction for the gelation. **Recognized Research Guide for:** Science (Chemistry)

**Guided students:** Master : 02, **Total Research Publications-** National : 02 International: 15, **H-Index:** 10; Citations : 314

**AWARDS:**

DST -Young Scientist Start-Up Research Grant, 2014.

**Dr. SUBRAHMANYAM V. GARIMELLA**  
*B. Sc., B. Tech, MS., Ph.D. (Engineering)*  
**UGC-Assistant Professor**

**SUBJECTS TAUGHT:**

Formulations in Fine Chemicals Industry (currently teaching), Materials Chemistry, Advanced Applications of Nanotechnology, Composites and Nanocomposites, Non-Ferrous Materials Technology, Introduction to Nanotechnology, Advanced Materials Technology, Materials Science, Micro and Nano Material Characterization, Engineering Materials

**RESEARCH INTERESTS:**

Matter Under Extreme Conditions of Pressure, Temperature and other fields; Synchrotron Sciences and Engineering; Materials Sciences and Chemical Technology

**Recognized Research Guide for:** Sciences & Engineering

**Guided students:** Ph.D. (01)

**Master :** 03

**TOTAL RESEARCH PUBLICATIONS :** National : Nil

**International:** 11

**H-Index:** 5 **Citations:** 198





# Department of **FIBRES & TEXTILE PROCESSING TECHNOLOGY**





**PROF. ASHOK ATHALYE**

*B.Sc. (Tech.), M. Sc. (Tech.), Ph. D. (Tech)*

**Professor of Textiles Chemistry**

**Head of the Department**



## 2.3 DEPARTMENT OF FIBRES AND TEXTILE PROCESSING TECHNOLOGY

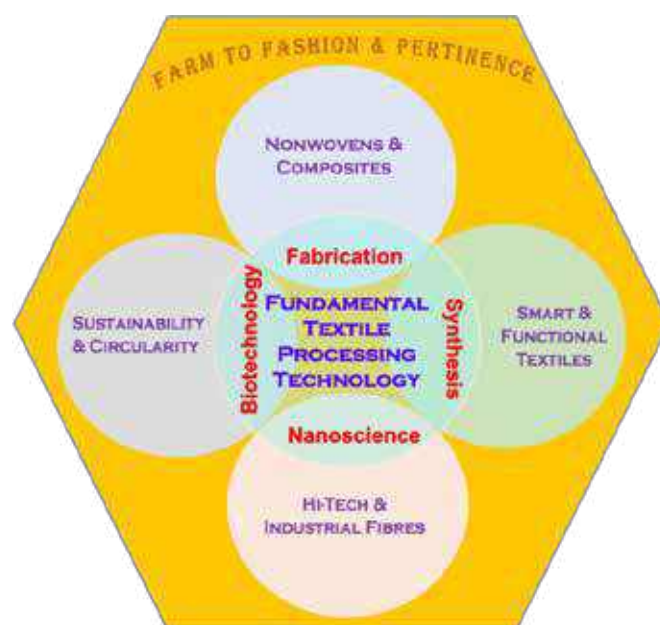
### VISION :

- To be the world class centre of excellence in teaching and research in chemical processing of fibres, textiles, apparels and the key areas of technical textiles with ecological, social and ethical responsibility, meeting the crucial needs of trained man power and technological solutions of Indian textile industry.

### MISSION :

- To be the leader in offering top class human resources by training them from bachelors to doctorate level degrees in core competence i.e. in chemical processing of fibres, textiles and apparels.
- To train the industrial technicians as per the demands of the industry, upgrading their skill to meet international quality standards.
- To conduct industrially relevant research and provide technical guidance aimed at offering technology solutions and enhancing competitive edge to the industry.

The department's educational curriculum encompasses various segments of the textile value chain and covers components from 'Farm to Fashion'. The strong technical foundation is laid based on the topics covered, theoretical fundamentals clarified and the hands-on practical know-how provided to the budding technologists.



The department has the unique distinction of being the first discipline with which this academic institute started and has the highest student intake capacity among the technology courses within the institute. The BTech course, with an intake capacity of 34 students, involves the manufacture of fibres and their chemical processing, such as preparation, colouration, and decoration. It also involves knowledge of green chemistry, biotechnology and nanotechnology with special reference to the chemical processing of textiles.

The postgraduate courses of M. Tech. in Fibres and Textile Processing Technology and M.Sc. in Textile Chemistry, Ph.D. (Tech.) in Fibres and Textile Processing Technology, Ph.D. (Sci.) in Textile Chemistry attract a large number of students and so far more than 2500 graduates and 500 postgraduates have passed out from this Department.

The department works closely with various industries involved in fibre and yarn manufacturing, fabric processing and garment making, colourant and auxiliary chemical production, instrument and equipment making, fashion designing and branding. It also has strong linkage and a signed Memorandum of Understanding (MOU) with many nationally and internationally renowned universities. It is well known for translational research and technology transfer and is often cited as a role model for academic institutes.

There have been a number of industrial and governmental research projects in which problems of mutual interest are investigated, and the students, as well as the Department, have been benefitting from this interaction. The Department is recognized as the Centre of Advanced Studies in “Physicochemical aspects of Textile, Fibres, Polymers and Dyes”. It was also recognised under the MODROB scheme of UGC. The Department was recognised as a DST-FIST-funded department for the second time.

The department also played an important role in evaluating TUFs under the Ministry of Textiles, GOI. The Department organizes guest lectures by industry experts under different endowment programs. The faculty is engaged in high-quality fundamental as well as applied research and has over 1000 publications in Indian and International journals. The Department conducted a twinning program and helped the Ethiopian Textile Industrial Development Institute (ETIDI).



**PROF. ASHOK R ATHALYE**

*B.Sc., B.Sc. (Tech.), M. Sc. (Tech.), Ph. D. (Tech)*

**Professor in Textile Chemistry**



**Department:** Fibres and Textile Processing Technology

**SUBJECTS TAUGHT:**

Theory of Textile Colouration, Technology of Dyeing and Printing, Sustainability Aspects of Textile Processing, Wet processing of Textiles, Laboratory Management Systems, Advanced Textile Materials, Technology of Textile Finishing

**RESEARCH INTERESTS:**

Sustainable textile wet processing, Immobilize Enzymes for cost-effective applications, enhancing digital colouration & effect finishing, microencapsulate sensory perceptive clothing, Process optimization in technical textiles, especially Mobile tech, Modify nonwoven coatings for Meditech & hygiene protection

**Recognized Research guide for:** PhD (Textile Chemistry), PhD (Tech) Textile Technology

Guided Students: 26, Ph.D.: 9 (on going), Masters: 17 (MTech- Textiles), 4 (MSc- Textile Chemistry), PDF, If any: 0, National: 120, International: 38, **Patents Published:** 03 (applied), **H-Index:** 21, **Citations:**619, **Patents Granted:**0



**Dr. KEDAR S. KULKARNI**

*Ph.D. (Tech.) Textile chemistry*

**Central Placement Coordinator, Associate Professor**

**Department:** Department of fibers and textile processing technology

**SUBJECTS TAUGHT:**

Physicochemical aspects of coloration, technology of dyeing and printing, technology of finishing, shade matching and bulk coloration, developments in textile wet processing machineries, dyeing of natural and synthetic fibres

**RESEARCH INTERESTS:**

Process optimization, dyeing of natural fibres with natural colorants, recycling of polymeric waste, effluent treatment

**Recognized Research guide for:** Textile chemistry

**Guided Students:** 3, **Ph.D.:** Nil, **Masters:** 3, **PDF, If any:** Nil, **National:** 3, **International:** Nil, **Patents Published:** Nil, **H-Index:** 5, **Citations:**214, **Patents Granted:**Nil





**PROF. (Dr.) RAVINDRA V. ADIVAREKAR**

*B.Sc., B.Sc. (Tech.), M. Sc. (Tech.), Ph.D. (Tech)*

**Dean (Human Resource Development), Director, ICT IOCB campus**

**Department:** Fibres and Textile Processing Technology

**SUBJECTS TAUGHT:**

Technology of Printing; Technology of Textile Coloration; Chemistry of Natural Fibres; Chemistry of Man-made Fibres; Dyeing of Natural Fibres; Printing of Textiles; Introduction to Textile Wet Processing

**RESEARCH INTERESTS:**

Natural Dyes and Mordants; Fibre Modification; Regeneration of protein and its applications; Respiratory filtration; Extraction of lignin and its applications; Nanocellulose; Superabsorbent; Dyeing and Printing of Textile; Mass Production and extraction of Microbial Enzymes and Colourants for Textile Processing; Medical Textile; Colour fastness of Textile Materials; Flame retardants; Graphene Nanotechnology; Lichen Dyes and their Extraction; Natural Fibre Reinforced Composites; Detergency of Textiles, Ionic liquids, and Dendrimers for Textiles, etc.

**Recognized Research guide for:** Ph.D. (Tech.) Fibres and Textile Processing Technology, Ph.D. (Sci.) Biotechnology, Ph.D. (Sci.) Textile Chemistry **Guided Students:** Ph.D.: 24 (Guided); 11 (Ongoing), **Masters:** 55 (Guided); 12 (Ongoing), **PDF, If any:** 02 (Guided), **National:** 75, **International:** 126, **Patents Published:** NA, **H-Index:** 23, **Citations:** 1569, **Patents Granted:** 2

**NATIONAL AND INTERNATIONAL AWARDS:**

1. Best Teacher Award for 2nd Year B.Tech. (2018), ICT, Mumbai
2. Honorary FTA Fellow of the Textile Association (2018)

**PROF. RAVINDRA D. KALE**

*B.Sc., B.Sc. (Tech.), M. Sc. (Tech.), Ph.D. (Tech)*

**Professor in Fibres and Textile Processing Technology**



**Department:** Fibres and Textile Processing Technology

**SUBJECTS TAUGHT:**

Testing of Textiles, Nonwovens, High Tech Fibres, Natural and Synthetic Fibres, Dyeing of Natural and Synthetic Fibres lab

**RESEARCH INTERESTS:**

Recycling of Fibre waste, Halogen Free flame retardants, Optimization of Effluent treatment processes, Application of nano emulsions in Textiles, Green Composites, Self-Reinforced Composites, Biodegradable packaging films and foams

**Recognized Research guide for:** Textile Chemistry

**Guided Students:** 53, **Ph.D.:** 07, **Masters:** 46, **PDF, If any:** 01, **National:** 09, **International:** 75, **Patents Published:** 04, **H-Index:** 19, **Citations:** 1155, **Patents Granted:** 04



**Dr. SANDEEP MORE**  
*Ph.D. (Tech).*  
**Assistant Professor**

**Department:** Fibres and Textile Processing Technology

**SUBJECTS TAUGHT:**

Chemistry and Applications of Textile Auxiliaries, Smart Textile, Chemistry of Colorants and its Applications, Advanced Textile Characterization Techniques, Effluent Characterisation and Treatment.

**RESEARCH INTERESTS:**

Molecular Machines, Singlet Fission, Organic Electronics, Smart Textile, Functional Dyes, Security Inks and Anti-counterfeiting Agents.

**Recognized Research guide for:** Chemistry (Sci)

**Guided Students:** 34, **Ph.D.:** 3, **Masters:** 31, **PDF, If any:** 2, **National:** 0, **International:** 2, **Patents Published:** 0, **H-Index:** 12, **Citations:** 537, **Patents Granted:** 0

**NATIONAL AND INTERNATIONAL AWARDS:**

- DST INSPIRE Faculty Award
- Early Career Research Award

**DR. SANTOSH S. BIRANJE**  
*B.Text., M.Tech., Ph.D. (Tech)*  
**Assistant Professor**



**Department:** Fibres and Textile Processing Technology

**SUBJECTS TAUGHT:**

Technology of Textile Pretreatment, Non-Wovens & Technical Textiles, Advanced Textile Materials, Research Methodology, Fastness Lab, Pretreatment of Textiles (Lab), Finishing and Evaluation of Textiles (Lab)

**RESEARCH INTERESTS:**

Sustainable textile wet processing, Fibre Science, Extraction and modification of biopolymers, Electrospinning of biopolymers, Biocomposites (thin films, hydrogels, and aerogels) based on nanocellulose and polysaccharides for potential tissue engineering and wound healing, 3D Printing

**Recognized Research guide for:** Ph.D (Tech.) Fibres and Textile Processing Technology, Ph.D (Sci.) Textile Chemistry

**Guided Students:** 02 (MSc Textile chemistry: 02), **Ph.D.:** 0, **Masters:** 04 ongoing (MTech: 02, MSc Textile Chemistry: 02), **PDF, If any:** 0, **National:** 03, **International:** 19, **Patents Published:** 0, **H-Index:** 12, **Citations:** 577, **Patents Granted:** 0



**Dr. PALLAVI BADHE**  
*Ph.D. (Sci) Textile Chemistry*  
**Assistant Professor**

**Department:** Fibres and Textile Processing Technology

**SUBJECTS TAUGHT:**

Chemistry of Textile Auxiliaries, Technology of Finishing, Certification in Textile Value Chain, Coloration in Textiles, Testing of Textiles, Experimental Dyeing, Analysis of Textile Chemicals and Fibres (Lab), Fastness Lab, Finishing and Evaluation of Textiles (Lab)

**RESEARCH INTERESTS:**

Industrial Biotechnology, Sustainable Textile Finishing, Textile Waste Management and Recycling, Biodegradable Textiles, Textile Reinforcement and composites, Cellular electrospinning, Biogenic nanoparticle synthesis, Natural Dyeing and Pigmentation etc.

PDF, If any: 0, National: 00, International: 07, **Patents Published:** 0,

**H-Index:** 05, **Citations:**136, **Patents Granted:**0

**Dr. SAPTARSHI MAITI**  
*B.Tech, M.Tech., Ph.D. (Tech)*  
**Assistant Professor (Contractual)**

**Department:** Fibres and Textile Processing Technology

**SUBJECTS TAUGHT:**

Introduction to Textile Substrates, Technology of Yarn & Fabric Manufacturing, Technology of Textile Polymers, Testing of Textiles, Experimental Dyeing, Analysis of Textile Chemicals and Fibres Lab

**RESEARCH INTERESTS:**

Graphene nanotechnology, Natural dyes, Lichen dyes, Statistical modelling in textiles, Extraction of proteins from natural waste and its applications in textiles, Dendritic structures.

**Recognized Research guide for:** B.Tech, M.Sc.

**Guided Students:** 0, **Ph.D.:** 0, **Masters:** 0, **PDF, If any:** 0, **National:** 4, **International:** 43, **Patents Published:** 0, **H-Index:** 14, **Citations:**584, **Patents Granted:**1

**NATIONAL AND INTERNATIONAL AWARDS:**

- Visiting Research Fellow at The University of Manchester, UK, funded by the UAA-ICT
- Dhirubhai Ambani Lifetime Achievement Award in 2018.







# Department of **FOOD ENGINEERING AND TECHNOLOGY**



**PROF. UDAY S. ANNAPURE**  
*B. Tech., M.Sc. (Tech.), Ph.D. (Tech.)*

Professor of Food Technology  
**Head of the Department**

## 2.5 DEPARTMENT OF FOOD ENGINEERING AND TECHNOLOGY

### VISION :

Establishing a center of excellence to provide demand driven, value-based and quality technical education to make India a developed country through socio-economic transformation

### MISSION :

Creating an atmosphere to deliver fundamental knowledge in Food Engineering and Technology for the students to fulfill the need of all segments of society and the environment.

Starting from the classroom teaching and simultaneously creating a multi-disciplinary platform capable of conducting research, technology development and solving industrial challenges.

Providing leadership and training personnel for the benefit of the industry and society complying with overall activity towards economic growth of the country.

This Department is the first in our country to offer specialized education in Food Technology. The B. Tech. (Food Engineering and Technology) course trains the students in chemical, biochemical and microbial aspects of foods. Students are also taught how high-quality products can be prepared and preserved for storage and how the storage conditions might affect the quality. The course gives adequate engineering inputs for large-scale production. The training also includes development of food products, manufacturing processes, design of factory with proper quality assurance system established. Economic feasibility of marketing such products is also taught during the course. The major research interests include carbohydrate chemistry and technology with focus on Indian traditional foods; and food microbiology related to quality, safety and application of new technology. Prof. D.V. Rege Centre has been founded to cater to the needs of Food Technology Research.

The Department of Food Engineering and Technology (FETD) was established in then UDCT in 1943 offering Bachelor of Science (Tech) in Chemistry of Foods and Drugs. Later in 1949, a full-fledged B.Sc Tech. degree course in Food Technology was started. In 1963, again for the first time in the country, Masters program in Fermentation Technology was initiated and the department was christened 'Food and Fermentation Technology Department'. In the 21st Century, after aligning all the graduate programs as 12+ 4 pattern, the department has focused on engineering as well. To keep up with the present times, the course in Fermentation Technology has been restructured as Food Biotechnology.

FETD also takes pride in playing a leading role in co-curricular as well extension activities at ICT and also through professional body, Association of Food Scientists and Technologists (India) or AFST (I).

We are thankful to UGC for the Center of Advanced Studies Status (CAS-I) and continued support by way of Ph.D fellowships under the SAP program. Support from TEQIP too facilitated many students and faculty in attending conferences and showcasing their work. ICT has been active in instituting several merit-cum-means scholarship for the needy and meritorious undergraduate students.

The burgeoning student strength is placing severe constraints on our infrastructure. Generous donations from alumni and their organizations have helped us in renovating our labs and infrastructure considerably. Our state-of-the-art conference room sponsored by Fine Organics Pvt Ltd, Mumbai, Prof. D. V. Rege Centre for Advanced Food Technology by HiMedia Laboratories Pvt Ltd, Thane, and renovation of labs through generous funding by our alumni, Shri Lalit Chadha and Dr. Anil Shrikhande, are some of the manifestations of unstinted support that we have been blessed to receive.

We are also grateful to all our UG-PG students and support staff for being with us at all times and enriching our lives in numerous ways. We look forward to your continued support and long-term association with us.

Major instrument/processing facilities: The FETD is well structured with equipment required for food



processing that include extruders, retort processing unit, blast and fluidized freezer, pasta making machine, modified atmosphere packaging, dough sheeter, tray and IR dryer, fluidized bed dryer, fermenter, high pressure homogenizer, ultrasonic processor, RO and ultrafiltration unit, spray dryer, and twin-screw extruder. The FETD also houses many analytical instruments such as HPLC, HPTLC, GC, GC-MS spectrophotometers, Hunter lab colorimeter, image analyser, Brookfield rheometer, texturimeter, Haake viscometer, electrophoresis unit, protein purification system, PCR thermal cyclers, RT-PCR, and differential scanning calorimeter (DSC).

In last five years FETD received major grants from UGC, TEQIP, RGSTC, MOFPI, ICAR, DBT, DAE, AICTE, DST.



Inauguration of Prof. D.V. Rege Centre for Advanced Food Technology on August 15, 2019 by Dr. G. N. Warke, Managing Director of Hi-Media Laboratories Pvt Ltd. The centre was renovated by the generous donation from Hi-Media.



High-Tech FET Conference Room was created with the generous donation by Fine Organic Industries Ltd. in the memory of Mr. Ramesh M. Shah, Founder of Fine Organic Industries Ltd. It was inaugurated by Prof. J.S. Pai, Executive Director, PFNDIAI on November 16, 2019.



**PROF. UDAY S. ANNAPURE**  
*B. Tech., M.Sc. (Tech.), Ph.D. (Tech.)*  
**Professor and Head of the Department**

#### **SUBJECTS TAUGHT:**

**Undergraduate Course:** Biochemistry, Chemistry of Food Constituents, Principles of Foods Preservation and Food Engineering, Cereal and Legume Technology, Human Nutrition, Dairy Technology, Fruit and Vegetable Processing, Food Analysis & Food Processing Lab.

**Post-Graduate Course:** Advances in Food Technology, Carbohydrate Chemistry and Technology, Advances in Food Engineering, Downstream Processing for Food and Beverage Industry, Food Biotechnology.

#### **RESEARCH INTERESTS:**

**Food Technology:** Non-Thermal Processing - Cold Plasma, Extrusion Processing – Process and Product Development, Drying and dehydration of foods. Frying - Chemistry and Technology Nutraceuticals – Chemistry, Technology and Product Development Carbohydrates - Chemistry and Technology of minor grains and tubers. Traditional Foods, Product and Technology development

**Biotechnology:** Food Biotechnology Downstream processing of enzymes, antioxidants, antibiotics and biomolecules. Plant tissue culture

**Recognized Research Guide for:** Ph.D.(Tech.) in Food Engineering and Technology, Food Biotechnology, Bioprocess Technology, PhD.(Sci.) in Food Science, Biotechnology

**Guided Students:** Ph.D.: 23; Masters: 114, **Total Research Publications:** 210, **National:** 08 **International:** 202, **Patents:** 2, **Book:** 1, **Book Chapters:** 21, **H-Index:** 41 (Scopus); 45 (Google Scholar), **Citations:** 6,635 (Scopus); 8735 (Google Scholar)

#### **AWARDS:**

- ISCMA “Excellent and Outstanding Service Award” as Professor (2024)
- Fellow of the Chamber of Small and Medium Businesses (2024)
- Shri Somalal Vyas – SEA Innovation Award 2024
- Shri Somalal Vyas – SEA Innovation Award 2023



**Dr. JYOTI SONTAKKE- GOKHALE**  
*UGC Assistant Professor*  
**Programme Coordinator, M. Tech. in Food Biotechnology**

#### **SUBJECTS TAUGHT:**

Nutrition; Waste Management in Food Processing; Food Biotechnology; Design and Analysis of Experiments; Biotechnology of Fermented Foods; Bioprocess Engineering and Technology; Nutraceuticals and Functional Foods; Enzymes in Food and Feed Industry; Technical Analysis Lab; Biochemistry lab; Microbiology Lab; Food Analysis Lab II; Food Biotechnology Lab

#### **RESEARCH INTERESTS:**

Enzymes in Food Processing; Biocatalysis; Extraction; Waste management; Fermentation Technology; Green Technology; Nutraceuticals and functional

foods; Plant-based foods

**Recognized Research Guide for** Ph.D. (Tech.) in Bioprocess Technology and Food Biotechnology; Ph.D. (Sci.) in Biotechnology

**Guided students:** Ph.D.: 4 (ongoing), Masters: 15 (Completed) and 8 (ongoing) **Total Research Publications:** International: 15 Book chapters 7, **H-Index:** 9; **Citations:** 223



**PROF. REKHA S. SINGHAL**  
*Ph.D. (Tech) (Food Technology)*  
**Professor in Food Technology**

**SUBJECTS TAUGHT:**

Food Additives and Ingredients, Principles of Food Analysis, Technology of Dairy, Animal and Plantation Products, Comprehensive Techniques in Food Analysis, Food Safety and Toxicology

**RESEARCH INTERESTS:**

Food Science and Technology, Carbohydrate Chemistry and Technology, Fermentative Production and Downstream Processing of Biomolecules, Supercritical Carbon Dioxide Extraction of Biomolecules, Food Biotechnology

**Recognized Research Guide for Ph.D (Tech)**

(Food Engineering and Technology), Ph.D (Tech)

(Food Biotechnology), Ph.D (Tech) (Bioprocess Technology), Ph.D (Biotechnology),

Ph.D (Food Science)

**Guided students:** Ph.D. 42, Masters: 110

**TOTAL RESEARCH PUBLICATIONS:**

**National:** 44, **International:** 385+

**H-index** as per scopus/google scholar: 59/75;

**Citations** as per scopus/google scholar: 15,649/24,569

**AWARDS:**

- Young Scientist Award, Association of Food Scientists and Technologists (I), Mysore, for the year 1995;
- Fellowship, Maharashtra Academy of Sciences for significant contributions to Engineering Sciences and Technology for the year 2007;
- Fellowship, Association of Food Scientists and Technologists (I), Mysore, for the year 2009.
- Fellowship, Biotech Research Society of India, for the year 2011;
- Malaviya Memorial Award (senior faculty), Biotech Research Society of India, for the year 2011;
- C. G. Memorial Award, XVIII Carbo Conference, Forest Research Institute, Dehradun, December 20, 2014;
- ISCMA Award for the year 2013-2014 instituted for 'Outstanding Professor', September 2, 2014;
- Prof. Man Mohan Sharma Award for the year 2015, 2016.
- Recipient of the Best Teacher Award (Professor D.V. Rege-AFST Mumbai Chapter-2011 Endowment) 2016-17, 2018-19 and 2020-21
- Fellow (FIBA) award of the International Bioprocessing Association- An International Forum on Industrial Bioprocesses, for the block years 2017-2018, conferred on May 2, 2019.
- Fellow, Indian National Science Academy, 2022
- Distinguished Alumnus Award, UDCT Alumni Association, 2021.





**Dr. SHALINI S. ARYA**

*B. Tech, M. Tech., Ph.D. (Food Engineering and Technology)*

**Professor of Food Technology and Warden, Hostel No. 3**

### **SUBJECTS TAUGHT :**

Chemistry of Food Constituents, Nutrition, Advances in Nutrition, Waste utilisation, Technology of Cereals, Legumes, Pulses and Oilseeds, Technology of Plantation Crops, Technology of Fruits and Vegetables and Tubers, Basics of Food Science and Technology, Biotechnology of fermented foods, Technical Analysis I and II(P), Food Microbiology (P), Food Chemistry (P), Food Analysis (P), Food Processing I and II (P)

### **RESEARCH INTERESTS :**

Cavitation for food processing and preservation, vegan meat alternatives, vegan dairy alternatives, plant based nutraceuticals, bioactives, novel green extraction techniques, Indian Traditional Foods, Chemistry and Preservation of Foods, Product Development and Processing, Staling Studies in Cereal and Cereal products, Starch Chemistry and Technology, Preservation of Foods, Indian Flat Breads, application of newer technologies in preservation of traditional foods, Food Biotechnology, production and Downstream Processing of Biomolecules, Fermented Foods, Diabetic Foods, Functional Foods, Nutraceuticals, Fruit and Vegetable Preservation and Processing, Recognized Research guide for Ph.D. (Tech.) in Food Engineering and Technology, Food Biotechnology, Bioprocess Technology, Ph.D. (Sci.) in Food Science, biotechnology.

**Guided students:** Ph.D.: Awarded: 6, Ongoing – 4 ; Masters: 50 **Total Research Publications:** **National:** 14, **International:** 100 **H-index as per Scopus/google scholar-** 28/22; **Citations as per Scopus/google scholar:** 1662/2703

### **AWARDS:**

- Executive committee, GYA (2022-23); (2020-21)
- Member, Global Young Academy, (2018- 2024)
- Member, Indian National Young Academy (INIAS), INSA
- Member, Task Force, Mission Millet, Ministry of Family welfare and health (2024-25)
- TWAS-Focal person, TWAS, Italy (2024-25)
- Member, OWSD, Italy
- CNPq-TWAS post Doctoral Fellowship (2019)
- Young Scientist award, AFST, India (2017)
- Best paper award, Elsevier Florida (2017)
- Malaspina international scholar award, ILSI, USA (2016)
- Innovative Research Idea award, CAS TWAS, China (2014)
- Young Scientist Award, Starch Update, 2007

**DR. YOGESH SHRINIVAS GAT**

*Ph.D. (Tech.) (Food Engineering and Technology)*

**Assistant Professor**



**SUBJECTS TAUGHT:**

Food Packaging Science and Technology, Principles of Food Preservation, Waste Management in Food Processing, Technology of Plantation Products, Advances in Food Technology, Advances in Nutrition, Food Analysis (P), Food Process Engineering (P).

**RESEARCH INTERESTS:**

Waste utilization, Value addition, food analysis techniques, new product development, thermal/non-thermal processing, nutraceuticals and functional foods

**Recognized Research guide for:** Ph. D. (Tech) Food Engineering & Technology; Ph. D. (Tech) Food Biotechnology

**Guided Students:** Ph.D. (Completed):1, Masters: 22 (Completed) 08 (Ongoing).

**Total Research Publications:** International: 63, National: 10; **Book Chapters:** 08; **H-Index:** 31, **Citations:** 4015.

**AWARDS:**

Young Scientist Award (2016)

Research Appreciation Award (2017)

Research Excellence Award (2018)

High Impact Teaching Award (2019)



**Dr. ROJI WAGHMARE**

*Ph.D. (Tech.) (Food Engineering and Technology)*

**Assistant Professor**

**Department:** Department of Food Engineering And Technology

**SUBJECTS TAUGHT:**

Chemistry of Food Constituents, Biotechnology of fermented foods, Principles of Food Preservation, Technology of Dairy, Animal and Plantation Products, Food Safety, Quality and Regulations, Food Analysis (P), Food Processing and product development (P)

**RESEARCH INTERESTS:**

Food Chemistry, Fruit and vegetable processing, Food quality, Food packaging, Waste management, Functional food, Non-thermal processing of food

**Guided Students:** **Masters:** 14, **PDE, If any:** No, **National:** 3, **International:** 38, **H-Index:** 15 (Scopus); 18 (Google Scholar), **Citations:** 825 (Scopus); 1204 (Google Scholar)

**AWARDS:**

Top 2% of scientists worldwide, according to the list released by Stanford University in collaboration with Elsevier for the year 2024.



Department of  
**OILS,  
OLEOCHEMICALS  
AND  
SURFACTANTS  
TECHNOLOGY**





**PROF. JYOTSNA S. WAGHMARE**

*B.Sc. (Tech), M.Sc.(Tech), Ph. D. (Tech.)*

Professor of Oils, Fats,  
and Waxes Technology

**Head of the Department**

## 2.5 DEPARTMENT OF OILS, OLEOCHEMICALS AND SURFACTANTS TECHNOLOGY

After WW-II, the Department for Technology of Oils, Fats and Waxes was started, which was headed by Professor J. G. Kane, whose work on non-edible oils was exceptional. The Department has been in forefront for its quality education. Several of its alumni have been industrialists and reputed educationists.

### VISION :

Harnessing innovative skills of its faculty and students to achieve a global leadership position in Oils, Oleochemicals and Surfactants Technology, while nurturing a culture of trust and healthy competition in order to serve the critical professional needs of industry and society.

### MISSION :

To pursue world class programs of excellence in education and research in specialized areas of Oils, Oleochemicals and Surfactants Technology relevant to the sustainable development of process industries that require problem solving competences in these core areas of knowledge.

### What is this Technology?

The lipids are a class of biochemical compounds, many of which occur naturally in plants and animals. The lipids constitute a very large class of compounds, many of which play essential roles in organisms. Among the most important lipids are fats and oils, waxes, steroids, terpenes, fat-soluble vitamins, prostaglandins, phosphoglycerides, sphingolipids, and glycolipids.

Phospholipids, for example, occur in all living organisms, where they are a major component of the membranes of most cells. The main use of fats commercially is in the production of soaps and other cleaning products. Oleochemicals are chemicals derived from biological oils or fats. The hydrolysis or alcoholysis of oils or fats form the basis of the oleochemical industry. The formation of basic oleochemical substances like fatty acids, fatty acid methyl esters (FAME), fatty alcohols, fatty amines and glycerols are by various chemical and enzymatic reactions. Intermediate chemical substances produced from these basic oleochemical substances include alcohol ethoxylates, alcohol sulfates, alcohol ether sulfates, quarterner ammonium substances, monoacylglycerols (MAG), diacylglycerols (DAG), structured triacylglycerols (TAG) and sugar esters. The importance of these chemicals is thus evident.

This Department has been pioneering in the field of Oil Technology. The curriculum has been designed to provide an in-depth knowledge of chemistry and technology of oils and fats, and their industrial applications. Career opportunities exist in oils mills and refineries, oleochemicals, soap and detergent manufacturing industries, surfactants and specialty chemical manufacture producing auxiliary chemicals, Paints. Cosmetics, Perfumery and raw materials used in the above industries. Several short and long-term projects instituted by sponsoring bodies for process/product development have been supervised by the faculty as part of their routine research activity.

It also participates in M. Tech. in Perfumery and Flavour Technology, Green Technology and Bio-Process Technology.



**PROFESSOR (DR.) J. S. WAGHMARE**

*B.Sc. (Tech), M.Sc.(Tech), Ph. D. (Tech.)*

**Professor of Oils, Fats, and Waxes Technology**

**Head of The Department**

**SUBJECTS TAUGHT:**

Analysis of oleochemicals and surfactants, Analysis of oils, fats and waxes, Technology of edible fat production, Evaluation and testing of soaps and detergents, Analysis of raw materials of Oils, Science and Technology of essential Oils, Advances in Technology of Oils and Fats Production, Nutraceuticals.

**RESEARCH INTERESTS:**

Nutraceuticals, oxidation studies, structural lipids, designer lipids. application of surfactant, Cosmetics, perfume, flavor and fragrances, enzymology.

**Recognized Research guide for Ph.D. (Tech.) in Oils, Oleochemicals and Surfactants Technology**

Guided students: Ph. D 4 (completed) 2 (ongoing), Masters: 45 **Total**

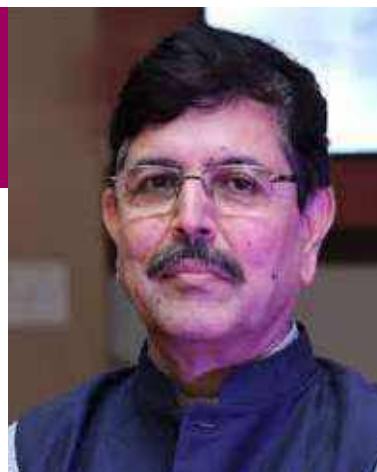
**Research Publications-** National: 05, International: 85, Patents : 02

**PROF. (Dr.) R. D. KULKARNI**

*B.Sc.(Tech), M.Tech., Ph.D. (Tech.)*

**Professor of Oil Technology**

**Vice Chancellor, Mumbai University**



**SUBJECTS TAUGHT:**

Surface Active Agents, Production and Applications of Surfactants, Soaps and Detergents, Chemistry of Oleochemicals and Surfactants, Chemistry of Oils and Fatty Acids, Paint Technology Laboratory

**RESEARCH INTERESTS:**

Green Surfactants, Surfactant mediated synthesis and Microheterogeneous Systems, Chemical Modification of Lipids, Biolubricants, Lipid Excipients, Utilisation of Vegetable Oil Refinery Byproducts, Nanopigments and Polymer Nanocomposites, UV

cure Multifunctional Monomers and Polymers, High Performance and Functional Coating Systems, Reaction Engineering and Nanocatalysis, Vegetable oils Blending

**Recognized Research Guide for Ph.D. (Tech.) in Oils, Oleochemicals and Surfactants Tech., Ph. D. (Sci.) in Chemistry** **Guided students** (completed): Ph.D.: 17, Masters: 66, Ongoing students: Ph.D.: 05, Masters: 05 **Total Research**

**Publications** : 82 National: 20, International: 62, **Google Scholar:** (H-Index 21, **Citations:** 1590, I10 Index: 35,

Scopus: (H-Index 18, **Citations:** 1173, I10 Index: 22, **Patents (granted):** 3

Books and monographs: 07 (International: 04 ; National: 03)





**PROF. AMIT P. PRATAP**

*B.Sc. (Tech), M.Sc. (Tech), Ph.D. (Tech.)*

**Professor of Oils, Fats and Waxes Technology**

**Coordinator Chemical Technology Management, Head Warden and Warden Hostel No. 5**

**SUBJECTS TAUGHT:**

Technology of Oil and Fat Production and Edible Oil Processing, Processing of Oils, Fats and Waxes, Processing of Oleochemicals and Cosmetics, Processing of Soaps, Surfactants and Detergents and Triboapplications laboratory, Functional Fluids and Performance Chemicals, Byproducts Utilization and Waste Management.

**RESEARCH INTERESTS:**

Tribo applications of oils and fats, Surfactants, Additives & specialty products, structural modifications of oils, fats and fatty acids, microbial Biosurfactants. Recognized Research guide for Ph.D. (Tech.) in Oils, Oleochemicals and Surfactants Technology, Ph. D. Tech. in Green Technology, Ph. D. (Science) in Chemistry, Ph. D. (Tech.) in Bioprocess Technology, Ph. D. (Science) in Biotechnology, Guided students: Ph.D.: 18, Masters: 98; PDF: 1, Ongoing students: Ph. D. 14, Masters 12, Total Research Publications: 113, National: 18; International: 95; Patent: 01, Scopus: **H-Index: 20, Citations: 1394**, Google Scholar: H-Index 23, **Citations: 1,881**, I10 Index: 48

**Dr. CHANDU S. MADANKAR**

*M. Tech, Ph.D.*

**J.G. Kane Assistant Professor in Oils, Oleochemicals and Surfactants Technology**



**Department:** Oils, Oleochemicals and Surfactants Technology

**SUBJECTS TAUGHT:**

Chemistry and Technology of Castor and Nonconventional Oils; Technology of Oleochemicals; Chemistry of Oils, Lipids, Essential oils and their applications; Cosmetics Science; Technology and Science of Essential Oils. Microbiology and Biochemistry Lab;

**RESEARCH INTERESTS:**

Green processing of Oleochemicals, Bio-lubricants, Supercritical fluids, Essential Oils, Cosmeceuticals, Surface Chemistry, Bio-Surfactants, Green catalysis. Specialty Chemicals, **Recognized Research guide for:** Ph.D (Tech) Oils, Oleochemicals and Surfactants Technology, Ph.D (Science) Chemistry, M. Tech Oils, Oleochemicals and Surfactants Technology, M. Tech Perfumery and Flavors Technology, M. Tech Bioprocess Technology, Guided Students: Ph.D.: 01, Masters: 28, Total Research Publications, National: 5, International: 26, **Patents Published: 1, H-Index: 11, Citations: 632**

**NATIONAL AND INTERNATIONAL AWARDS:**

- S.R. Bhatnagar Memorial Research award, 2013 by the Oil Technologist Association of India
- Canadian Commonwealth Scholarship by the Canadian Bureau for International Education (CBIE) on behalf of Foreign Affairs and International Trade Canada (DFAIT) in Department of Chemical Engineering, University of Saskatchewan, Canada 2011-12.



**Dr. PINTU K. KUNDU**  
*B.Sc. (Science), M.Sc. (Science), Ph.D. (Science)*  
**UGC -FRP Assistant Professor**

**Department:** Oils, Oleochemicals and Surfactants Technology

**SUBJECTS TAUGHT:**

Chemistry of Oils and Fatty Acids; Supramolecular Chemistry of Nanomaterials; Chemistry of Perfumery Chemicals; Structural Elucidations by Advanced Spectroscopy; Technology of Perfumery Chemicals; Preparation and Purification of Organic Derivatives.

**RESEARCH INTERESTS:**

Azobenzene- and spiropyran-based functional molecules and materials; Organic molecular switches, photochromism and acidochromism; Photoswitchable N-hetero cyclic carbene- complexes and alteration of reaction kinetics; Photoswitchable surfactants and light-induced modification of surface activities. Synthetic organic chemistry, essential oils, fatty acid derivatives. **Recognized Research guide for:** Ph.D. (Science) in Chemistry Guided Students: Ph. D: 2 (completed); Masters: 6 (completed) Total Research Publications: International: 21

**H-Index:** 13 [Google Scholar], 13 [Scopus]

**Citations:** 1477 [Google Scholar], 1259 [Scopus]

**NATIONAL AND INTERNATIONAL AWARDS:**

- Core Research Grant (CRG) by SERB, DST (2021-2025).
- Guest of Honour; L-Ward Science Exhibition 2018–2019; North Zone, Mumbai.
- Early Career Research Award by SERB, DST (2016-2019).
- Institutes' Post-Doctoral Fellowship, IIT Bombay (2015-2016).
- Post-Doctoral Fellowship, Weizmann Institute of Science, Israel (2012-2015).
- Doctoral Fellowship at Bhabha Atomic Research Centre, DAE, India (2006-2012).
- National Eligibility Test (CSIR-NET): Qualified (2007).
- Graduate Aptitude Test in Engineering (GATE): 98.91%; All India Rank: 36 (2005).
- Merit scholarship holder in M.Sc. at Indian Institute of Technology, Madras (2004-2006).

Personal Website:

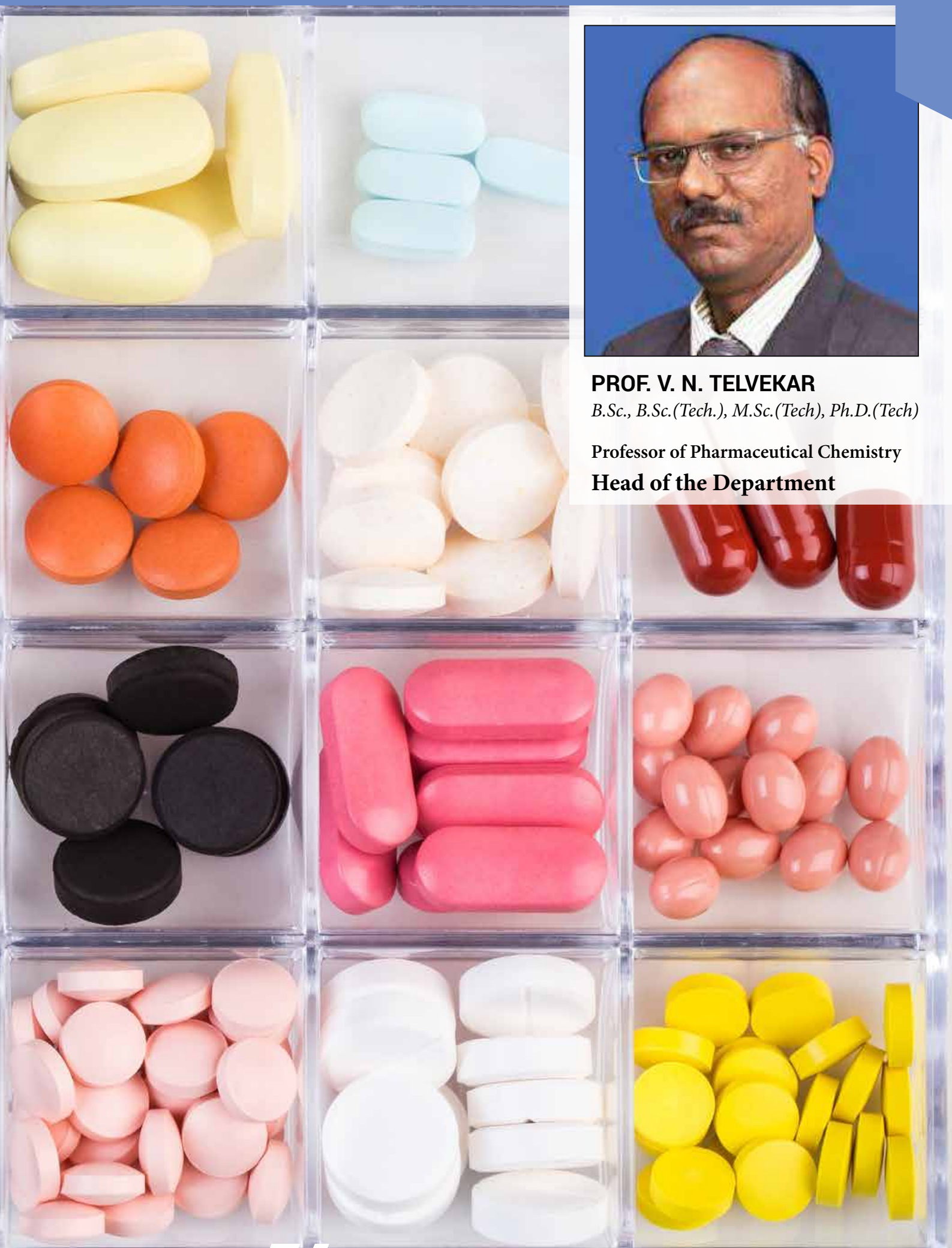
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# Department of PHARMACEUTICAL SCIENCES AND TECHNOLOGY





**PROF. V. N. TELVEKAR**

*B.Sc., B.Sc.(Tech.), M.Sc.(Tech), Ph.D.(Tech)*

Professor of Pharmaceutical Chemistry

**Head of the Department**

## 2.6 DEPARTMENT OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

### VISION :

To be a globally recognized premier educational and research Centre with world class facilities, adopting international best practices, focused on the integration of science and technology in the areas of Drug Discovery, Drug Delivery, Organic Process Research and Herbal Healthcare Products

### MISSION :

To achieve the best in pedagogy and research, through creation of a dedicated team of faculty and state of art research facility, to develop skilled manpower and innovative cost effective technology to support national healthcare programmes.

This Department offers two distinct programmes - Pharmaceutical Technology and Pharmacy. The Pharmaceutical Technology course or the B. Tech. programme, earlier B.Sc. (Tech.), deals with the technology of manufacture of drugs and pharmaceuticals. It has all the ingredients for a solid foundation in basic sciences, mathematics, computation and chemical engineering.

B. Tech. (Pharmaceuticals and Fine Chemicals) was started in 1943, and today the course is B.Tech. (Pharmaceutical Chemistry and Technology). Basic science subjects like chemistry, mathematics and physics are dealt with in depth, while students are introduced to subjects of biochemistry, microbiology and pharmacology. Strong background knowledge of chemical engineering including chemical reaction engineering, unit operations, separation processes, instrumentation and process control, and stoichiometry is imparted to synergise with the major focus, which is on manufacturing process technology and chemistry of API, intermediates and fine chemicals and dosage form technology. Several distinguished alumni and many first generation renowned industrialists had their training in this Department. The aim of the B.Tech. (Pharma) course is to develop complete professional technologists/entrepreneurs for the active pharmaceutical ingredients (API) and pharmaceutical industry.

The B. Pharm. Course at ICT, started in 1958, was the first course of this kind in the state of Maharashtra. The course involves a detailed study of Pharmaceutics, Pharmaceutical and Medicinal chemistry, Pharmacology, Pharmaceutical Analysis and Pharmacognosy. The goal is to enable an understanding of the science of drugs and drug actions. The course is supported with in depth courses in basic sciences namely, organic chemistry, inorganic chemistry, physical chemistry, biochemistry, microbiology, maths and other relevant subjects like biotechnology, forensic pharmacy, management. The focus is on development of an expertise in the chemistry of drugs, drug effects, dosage regimen, drug toxicity and interactions with adequate knowledge of the synthesis of drugs, principles of drug formulation design and evaluation and regulatory requirements.

The UGC has recognized the Department as Centre of Advanced Studies in Pharmaceutical Science and Technology with supernumerary Single Girl Child Fellowships. Besides, fellowship are also accorded under various other government projects with individual faculty. The Department has also received support under the DST-FIST programme. Many industry sponsored projects, both National and International, are also currently in progress. Modern equipment, instruments and infrastructure are available for research. The faculty is highly active and has filed patents in a variety of areas including NCE's and drug delivery. The Department also participates actively in three inter disciplinary courses of ICT namely M.Tech. in Bioprocess Technology, M.Tech. in Perfumery and flavour Technology and M.Tech. in Green Technology.

M. Tech. in Pharmaceutical Biotechnology has been started since last year with 10 GATE fellowships. The programme is multi-disciplinary.





**PROF. V. N. TELVEKAR**

*B. Sc. (Mumbai, 1992), B. Sc. (Tech.) (Mumbai, 1995), M. Sc. (Tech.) (Mumbai, 1997), Ph. D. (Tech.) (Mumbai, 2003)*

**Head and Professor of Pharmaceutical Chemistry**

**SUBJECTS TAUGHT :**

Medicinal Chemistry, Pharmaceutical Chemistry, Pharmaceutical Engineering, Process Technology of Drugs and Intermediates

**RESEARCH INTERESTS :**

Invention of new reactions and reaction, Design and synthesis of novel bioactive molecules using Computer aided drug design, total synthesis of bioactive natural products, process development.

**Recognized Research guide for** Ph.D. (Tech) in Pharmaceutical Technology, Pharmaceutical Chemistry, Bioprocess Technology, Ph.D (Sci) in Chemistry, Guided Students: Ph.D. 28, Masters: 61  
**TOTAL RESEARCH PUBLICATIONS-** International: 100  
**Citations :** 1866, **H-index :** 23; **Patent granted:** 02

**PROF. PURNIMA AMIN**

*B. Pharm. (Mumbai, 1982), M. Pharm. (Mumbai, 1984), Ph.D. (Tech.) (Mumbai, 1988)*  
Senior professor in Pharmacy

**SUBJECTS TAUGHT:**

Pharmaceutics. Physical Pharmaceutics, Pharm Formul Tech

**RESEARCH INTERESTS:**

Novel Drug Delivery systems using HME

**Recognized Research guide for:** MPharm, M. Tech. Ph.D. Tech

Guided Students: 100+, Ph.D.: 30, Masters: 90, PDF, If any: 1, National: 43, International: 122, **Patents Published:** 19, **H-Index:** 30, **Citations:** 2924, **Patents Granted:** 12

**NATIONAL AND INTERNATIONAL AWARDS:**

Best poster award at CRS. July 2023. USA







**PROF. GANESH U CHATURBHUJ**  
M. Pharm. Sc., Ph.D. (Pharmaceutical Chemistry)  
Professor of Pharmacy

**SUBJECTS TAUGHT:**

Pharmaceutical Analysis-I, II, III, Pharmaceutical Organic chemistry-III, Instrumental Methods of Analysis, Active Pharmaceutical Ingredients Technology, Medicinal Chemistry-I Lab, Pharmaceutical Analysis-I Lab

**RESEARCH INTERESTS:**

Design, Synthesis and evaluation of the new chemical entities as Anti-inflammatory, Anti-diabetic and anti-cancer agent through rational drug design. Development of various bronsted and Lewis solid acid catalyst for chemical reactions. Development of synthetic route for the API, Agrochemicals and fine chemicals and intermediates thereof. Synthesis and spectral characterization of impurities of the API, Agrochemicals and fine chemicals. Recent fields of green chemistry like flow chemistry and electrochemistry for efficient and pollution free organic transformation useful in drug synthesis. Application of catalysis and reagents system, flow chemistry for synthesizing Active Pharmaceutical Ingredients

**Recognized Research Guide for:** PhD (Tech.) Pharmaceutical Chemistry, PhD (Tech) Pharmaceutical Technology, PhD (Science) Chemistry.

Guided students: Ph.D.: 13, Masters: 25, Total Research Publications International 07, International: 71, Citations 1293 and H-index 23, Patent: 02

**AWARDS:**

Best Teacher award by B Pharm ICT, Mumbai,

Awarded with UGC Indo-US Raman Post-Doctoral Fellowship to visit Northeastern University, Boston, MA, USA for 2013-2014.

**Dr. HEMCHANDRA KESHAV CHAUDHARI**  
M. Pharm. (Medicinal Chemistry), Ph. D. (Tech.) (Pharmaceutical Chemistry)  
Assistant Professor



**SUBJECTS TAUGHT:**

Medicinal Chemistry, Biochemistry and Analysis

**RESEARCH INTERESTS:**

Design of Pharmacological active molecules by molecular modelling using the various drug design software like Schrodinger's and MOE for Pharmacophore and docking study. Synthesis of design molecules by Conventional or greener method. Evaluation of synthesized molecules for suitable pharmacological activity.

Process development for API and intermediates. Chemical transformation by novel greener, enzyme catalytical methods.

Impurities synthesis and screening for biological activity.

**Recognized Research guide for:** 1.PhD(Tech.) in Pharmaceutical Chemistry, 2.PhD(Sci.) in Chemistry, 3.PhD (Sci.) in Biochemistry

Guided Students: PhD: 3 Ongoing: 5 Masters: 15, Ongoing: 20, PDF, If any: 0, National: 03, International: 38, **Patents Published:** 0, **H-Index:** 17 (scopus), **Citations:**944 (scopus), **Patents Granted:**1

**NATIONAL AND INTERNATIONAL AWARDS:**

Mentor of Winner team of Smart India Hackathon 2022



**PROF. MARIAM S. DEGANI**

*B.Pharm, M.Pharm, Ph.D. (Tech)*

**Professor of Pharmaceutical Chemistry**

**SUBJECT TAUGHT:**

B.Pharm, B.Tech Pharm, M.Pharm (Pharmaceutical Chemistry, Medicinal Chemistry, Rational Drug Design, Organic Chemistry and Spectroscopy)

**RESEARCH INTERESTS:**

Drug design including ligand, structure and fragment based drug design. Synthesis of focused libraries of potential bioactive molecules for infectious techniques including parallel synthesis and microwave assisted synthesis. Exploration of natural products as therapeutic leads. Fluorine chemistry, process development of drug and drug intermediates, green chemistry using ionic liquids and newer catalytic system development.

**Recognized Research Guide for** Ph.D. (Tech), Ph.D. (Science), Ph.D.(Biotech), Guided students: Ph.D.: 32, Masters: 80 **TOTAL RESEARCH PUBLICATIONS-** National: 28, International: 103, **H-Index:** 28, **Citations:** 2168

**AWARDS:**

1. Fellow of Maharashtra Academy of Sciences
2. Best Teacher Award of ICT (2012-13, 2014-15)
3. Gharda award 2008-2009 for research publications.
4. Distinguished Alumni Award conferred by C. U. Shah College of Pharmacy, 2007 Mumbai

**Dr. NITIN D. AROTE**

*Ph.D.(Tech) in Technology of Pharmaceutical And Fine Chemicals*

**Central Placement Coordinator,**

**Associate Professor in Pharmaceutical Technology**



**SUBJECTS TAUGHT:**

Drug Synthesis Approaches, Process Development, Advance Pharmaceutical Technology, Research Methodology, Pharmaceutical Analysis and Green Chemistry

**RESEARCH INTERESTS:**

Process Development, Process Optimization, Polymorphism, co-crystals, Design and development of reaction and reaction systems, Biocatalysis.

**Recognized Research guide for:** M.Tech, M.Pharm, Ph.D(Tech) and Ph.D (Sci), Guided Students: Ph.D.: 03 Ongoing, Masters: 6 completed; 12 Ongoing, PDF, If any: No, Publications: National: 1, International: 5, **Patents Published:** 9, **H-Index:** 5, **Citations:**160, **Patents Granted:**5

**NATIONAL AND INTERNATIONAL AWARDS:**

- Life time members of UDCT Alumni Association
- ICT Golden Jubilee Research Fund Endowment
- Best Scientist of the year award at Teva API Pvt Ltd .



**Dr. PRAJAKTA DANDEKAR JAIN**  
*Ph.D. (Tech.) in Bioprocess Technology*  
**Coordinator, M.Tech. Pharmaceutical Biotechnology,**  
**UGC Assistant Professor in Engineering Sciences**

### SUBJECTS TAUGHT:

Pharmaceutical Biotechnology

### RESEARCH INTERESTS:

3D cell Culture, Nanofibres and Tissue Engineering, RNA therapeutics and Nanomedicine, High Throughput cellular models for toxicity, efficacy and bioassays, Green biotechnology and Green Chemistry

**Recognized Research guide for:** Ph.D. (Tech) Bioprocess Technology, Ph.D.(Sci.) Biotechnology, Ph.D. (Tech) Green Technology, M.Tech. in

Pharmaceutical Technology, Pharmaceutical Biotechnology and Bioprocess Technology, **Guided Students:** PhD: 12, Masters: 40+, PDF, If any: 1, National: 1, International: 134, **H-Index:** 33, **Citations:** 3761, **Patents Published:** 20, **Patents Granted:** 05

### NATIONAL AND INTERNATIONAL AWARDS:

- "Swami Vevekanand Yuva Puraskar 2023" by RSS Jankalyan Samiti, Maharashtra Branch, Pune, for work related to 3D cell culture and organ-on-chip technologies, January 2023
- "Unch Maza Zoka" Award for Women Achievers by ZEE Entertainment Enterprises Ltd, Mumbai, for work related to 3D cell culture and organ-on-chip technologies, August 2022
- Savitribai Phule Stree Gaurav Puraskar by Maharashtra Seva Sangha, Mulund, Mumbai, for work related to organ-on-chip technology, April 2022
- N. R. Kamath Book Award for book entitled 'Targeted Intracellular Drug Delivery by Receptor Mediated Endocytosis', AAPS Advances in the Pharmaceutical Sciences Series, Springer, September 2020
- M.V. Deshpande Young Scientist Award at the 11th Asia Pacific Chitin and Chitosan Symposium, October 2016
- N. R. Kamath Book Award for book entitled 'Nanoparticulate Drug Delivery: Perspectives on the Transition from Laboratory to Market', Woodhead Publishing Series in Biomedicine, Woodhead Publishing, July 2014
- DAE Young Scientist Research Award, 2012
- Young Associate of Maharashtra Academy of Sciences for the contribution and Engineering and Technology, 2012
- Ramanujan Fellowship, DST, 2012
- Fellow of European Respiratory Society (FERS)
- ERS-Marie Curie Postdoctoral Fellowship-2010 from European Respiratory Society
- Galenus-Privatstiftung Travel Awards, Austria, in 2011, 2012, 2015, 2016

**Dr. SHIRISHKUMAR D. AMBAVADE**  
*Ph.D. (Tech.)*

**Associate Professor**

### SUBJECTS TAUGHT:

Human anatomy and physiology, Pathophysiology, Pharmacology, Advance Pharmacology, Receptor Pharmacology, Molecular Pharmacology, Clinical Pharmacology, Research Methodology, Drug Regulatory Affairs, Pharmaceutical Jurisprudence, Clinical pharmacology and drug interactions, Topics in pharmacology.

### RESEARCH INTEREST:

Pharmacological evaluation of drugs acting on the central nervous system specifically, for memory enhancement, anti-Alzheimer's, antiepileptics, antidepressants, and antianxiety. Evaluation of the role of HDAC in CNS diseases and their pharmacotherapy. Development and evaluation of herbal-originated drugs for the treatment of CNS diseases and disorders, Gastrointestinal diseases, diabetes, and anti-inflammatory activity. Guided Students: 01, Masters: 9 completed; 06 Ongoing, PDF, If any: No, Publications: National: 16, International: 19, **Patents Published:** 1, H index: 14; i10 index: 17 **Citations:** 854

### Awards:

- Gold medal for Ph. D thesis by European Ayurvedic Academy, 2007.
- Outstanding Reviewer Award from Elsevier (Journal of Ethnopharmacology) 2018





## PROF. VANDANA B. PATRAVALE

*B. Pharm. Sci. (Mumbai, 1985), M. Pharm. Sci. (Mumbai, 1987), Ph. D. (Tech.) (Mumbai, 1992)*

**Professor of Pharmaceutics**



### SUBJECTS TAUGHT:

Cosmeticology, Advanced Pharmaceutics, Targeted Drug Delivery systems, Pharmaceutics VI, Validation and regulatory affairs, Industrial Pharmacy Laboratory, Novel drug delivery systems

### RESEARCH INTERESTS:

Novel nanocarriers for cosmeceuticals and other pertinent areas of national relevance with major emphasis on malaria, cancer and neurodegenerative disorders.

**Specific research interest include:** 1. Nanotechnology based drug and gene delivery systems (lipid, polymeric, micellar nanocarriers, nanosuspensions, micro/nanoemulsions and self-micro/nano emulsifying systems) for bioavailability enhancement and/or targeting., 2. Vaccines and adjuvants, 3. Nanodiagnostics, 4. Tissue engineering and scaffolds, 5. Medical devices viz. coronary stents, intrauterine devices etc., 6. Novel carriers for solubilization and formulation development thereof, 7. New polymer and lipid conjugates, surfactant synthesis, 8. Exploring potential of indigenous excipients, 9. Modified release dosage forms for all routes of administration, 10. Development of artificial membrane: An alternative to animal models, 11. Cocrystal development

**Recognized Research guide for:** Ph.D. (Tech.), Ph.D. (Sci.), Guided Students: 144, Ph.D.: 48, Masters: 105, PDF, If any: 2, National: 15, International: 207, **Patents Published:** 22, **H-Index:** 59, **Citations:** 14563, **Patents Granted:** 32

### NATIONAL AND INTERNATIONAL AWARDS:

1. Top Most Healthcare Leaders (Global) organized by World Health and Wellness congress award (2023)
2. Top Most Healthcare Leaders (Global) organized by World Health and Wellness congress award (2022)
3. Ranked as the top 2% most-cited scientists in a list published by Stanford University (2022)
4. Abdul Kalam National Innovation Fellowship from Indian National Academy of Engineering (INAE) (2021)
5. Independent Director, Sahajanand Medical Technologies Pvt. Ltd., Gujarat, India (2021)
6. Kukreja Oration Award by the India Section of International Academy of Cardiovascular Sciences (2020)
7. Dr. Manjushree Pal Memorial Award for the best Pharmaceutical Scientist-2019 (2019)
8. Prof. Indira Parikh 50 women in education leaders award by 7th World Education Congress (2018)
9. Shri Amrut Mody Distinguished Researcher Award by Indian Pharmaceutical Association Maharashtra State Branch's Amrut Mody Research Fund Committee (2018)
10. UGC-BSR Mid Career Award Grant 2018 by University Grants Commission
11. Vice-President, CRS-IC, Controlled Release Society (2016)
12. OPPI Woman Scientist Award – 2015, Organization of Pharmaceutical Producers of India (2015)

13. Vividhlaxi Audyogik Samshodhan Vikas Kendra (VASVIK) Apex Committee's Smt. Chandaben Mohanbhai Patel Industrial Research Award for Women Scientists – 2013 (2015)
14. Convener, Association of Pharmaceutical Teachers of India (APTI), Women forum (2014)
15. Dr. P. D. Patil Best Pharmaceutical Scientist of the year Award – 2014, Association of Pharmaceutical Teachers of India (APTI), Maharashtra State (2014)
16. Prof. N. R. kamath Book Author's award, Institute of Chemical Technology (2014)
17. Veneto Nanotech Prize (Winner of the second edition of the Cadini Prize), NanotechItaly, Italy (2013)
18. Grant Awardee – 'Nanovaccine for Brucellosis using Green Technology'; Grand Challenges Explorations Grants Round 11, Bill & Melinda Gates Foundation, (2013)
19. BVDUPCP- Pharmacy Teacher of the year Award 2012, APTI- 17th Annual National Convention – 2012 (2012)
20. Maharashtra Academy of Sciences fellowship, Maharashtra Academy of sciences (2011)
21. "Incentives to Meritorious Teachers", Dr. K. H. Gharda Reward, Board of Governors, Institute of Chemical Technology (2009)
22. Prof. B. M. Mithal Memorial Award for best article published in Pharmaceutical Education section of IJPER titled "Introducing Molecular Bio-Pharmaceutics in the Post Graduate Level Curriculum" (2009)
23. Nominated as International advisory committee member, American Association of Pharmaceutical Scientists (AAPS) (2008)
24. Best teacher award, Final year B. Pharm., ICT (2008-09)
25. Best teacher award, Second year B. Pharm., ICT (2006-07)
26. Distinguished Alumni award conferred by Prin. K. M. Kundanani College of Pharmacy, Mumbai (2003)
27. Recipient of Belgium Scholarship, Belgium Embassy (1993)
28. Recipient of Senior Research fellowship by University Grants Commission (1987-91)
29. Recipient of Junior research fellowship by University Grants Commission (1985-87)
30. Awarded Shri M. L. Khorana Memorial Prize for securing second rank in the University of Bombay at Final B. Pharm Examination (1985)
31. Awarded Smt. Jethibai Hirdaram Jagtiani Scholarship for securing FIRST rank at K. M. Kundanani College of Pharmacy in Final year B. Pharm Examination (1985)
32. Awarded National Merit certificate for merit ranking at SSC (1980)



#### PROF. K. S. LADDHA

*B. Pharm. (Mumbai, 1982), M. Pharm. (Mumbai, 1985), Ph.D. (Tech.) (Mumbai, 1994)*

**Senior Professor**

#### SUBJECTS TAUGHT:

Pharmacognosy, Phytochemistry and Medicinal Natural Products

#### RESEARCH INTERESTS:

Extraction, isolation and characterization of phytoconstituents, Development of large scale extraction technologies, Standardization of herbal drugs and formulations, Development of herbal drug formulations, Chemical Modification of phytoconstituents.

**Recognized Research guide for:** Ph.D. (Tech) in Pharmacognosy, Pharmaceutical Technology, Bioprocess Technology, Ph.D (Sci) Chemistry

**Guided Students:** Guided students: Ph.D. 21, Masters: 82, Patents : 12, Ph.D.: 1 ongoing, Masters: 5 ongoing, PDF, If any: NIL, National: 30, International: 123, Books: 13; Plant monographs: 53; **Patents Published:** 12, **H-Index:** 19, **Citations:**1387, **Patents Granted:**12

**NATIONAL AND INTERNATIONAL AWARDS: 5**

### PROF. SHREERANG V. JOSHI

*B.Sc., B.Sc. (Tech.), Ph.D., D.I.M. FMAS, FICS*

**Professor of Pharmaceutical Chemistry**



#### SUBJECTS TAUGHT:

Introduction to Pharmaceuticals and Fine Chemicals, Chemistry of Natural Products, Pharmaceutical Chemistry and Catalytic Processes, Spectroscopy, Process Technology of Bulk Drugs

#### RESEARCH INTERESTS:

Synthesis of Natural Products of Biological Importance, Process Development of Drugs, New Methodologies in Organic Synthesis, Synthesis of Drug-Polymers Conjugates

**Recognized Research guide for:** Ph.D (Tech), Ph.D (Sci), M.Tech, M.Pharm, M.Tech (PBT)

**Guided Students:** 29, Ph.D (Tech), Ph.D (Sci), M.Tech, M.Pharm, M.Tech (PBT), Guided Students: 29, Ph.D.: 4+ 4 (ongoing), Masters: 23, Ph.D. If any: No, National: 10, International: 20, **Patents Published:** 32, **H-Index:** 10, **Citations:** 281, **Patents Granted:** 32

#### NATIONAL AND INTERNATIONAL AWARDS:

- Vividhlaxi Audyogik Samshodhan Vikas Kendra (VASVIK) Award 2019 (May 2022)
- Best Paper Award in Review Article Category by IDMA (2020-21)(April 2022)
- Fellow of Maharashtra Academy of Sciences (2021)
- Life Fellow, Indian Chemical Society (2022)



### PROF. SADHANA SATHAYE

*Ph.D. (Tech.)*

**Senior Professor of Pharmacy**

#### SUBJECTS TAUGHT:

Anatomy Physiology and Pathology-I (Theory and Laboratory), Anatomy Physiology and Pathology-II, Pharmacology I, Pharmacology IV, Physiology-Pharmacology, Pharmacology Toxicology and Therapeutics, Models for drug delivery systems, Medicinal and Natural Products

#### RESEARCH INTERESTS:

1. Exploration of neuroprotective activity, and early diagnosis and treatment for Epilepsy, Alzheimer's and Parkinson's diseases,
2. Treatment for cataract and dry eyes, and ophthalmic formulation development.
3. Formulation development for Upper Respiratory Tract Infection (URTIs).
4. Immunomodulatory screening of phytoactives and cell-proliferation study.
5. Cell culture technology for in-vitro screening of drugs for treatment of Cancer, Parkinson's and Alzheimer's disease.
6. Preclinical In-vivo studies for wound healing, ADHD and In-vitro permeation study of formulations.
7. Studies related to Diabetes mellitus and associated retinopathy.
8. Technology development and its assessment using PK-PD correlation.
9. Isolation of phytoconstituents from herbal extracts and their evaluation.
10. In-vitro evaluation of Antioxidant activity.

**Recognized Research guide for:** Ph.D. (Tech) in Pharmacology, Bioprocess Technology, Biological Sciences, Ph.D. (Sci.) in Biotechnology, Guided Students: 100, Ph.D.: 22 completed, currently registered- 9, Masters: 78 completed, currently registered- 8, Publications: National: 30, International: 94, **H-Index:** 27, **Citations:** 3010, **Patents Granted:** 4

#### NATIONAL AND INTERNATIONAL AWARDS:

1. Best Teacher Award for S.Y.B.Pharm (2013-14 and 2015-16), S.Y.B.Tech (2012-13).
2. Fellow of Maharashtra Academy of Sciences,
3. Life Member of Indian Pharmaceutical Association (IPA), Maharashtra
4. Life Member of Association of Pharmaceutical Teachers of India (APTI)
5. Life Member of Indian Pharmacological Society (IPS)
6. Life Member of Indian Women Scientists Association (IWSA)





**Prof. P. R. Vavia**

*B. Pharm, M. Pharm, Ph.D. (Tech), FIPA, FMASc*

**Professor of Pharmaceutics**

**Department: Pharmaceutical Sciences and Technology**

**SUBJECTS TAUGHT:**

Pharmaceutics, Drug Delivery systems, Advanced Pharmaceutics, Biopharmaceutics and Pharmacokinetics

**RESEARCH INTEREST:**

Cyclodextrin based drug delivery systems, Nanosponge based drug delivery system, Transdermal drug delivery system, Protein and Peptide drug delivery system, Lipid based colloidal formulations, Polymer synthesis for drug delivery, Modified release films, Melt extrusion technology, Oral liquid dosage forms, Oral modified release systems, Techniques in solubilization, Soft gelatin capsules, Bio- conjugates for active targeting, gene delivery

**Recognized Research Guide for Pharmaceutics** Guided students: Ph.D. 43, Masters: 56, Total Research Publications (Scopus): National: 21, International: 156, H-Index : 48, **Citations:** 8721, Patents: International: 3 [PCT (Granted: 1; Applied: 2)], National: Granted: 8, Applied: 30

**AWARDS:**

1. Best Teacher's Award 2018.
2. Global RESOMER Award 2017 for developing the "Novel bilayer dissolving microneedle arrays with concentrated PLGA microparticle to targeted intradermal delivery: Proof of concept".
3. Best Teacher's Award 2016.
4. VASVIK Award in the category of Biological Sciences and Technology, for developing the Novel Drug Delivery Systems, Synthesis and application of novel polymers and excipients and targeted drug delivery in cancer treatment, January 2015



**PROF. PRASHANT S. KHARKAR** FICS, FMASc

*B. Pharm. (Pune, 1998), M. Pharm. Sci. (Pharmaceutical Chemistry) (Mumbai, 2000),  
Ph. D. (Tech.) (Pharmaceutical Chemistry) (Mumbai, 2004)*

**Dean (Student and Alumni Affairs) and Professor of Medicinal Chemistry**



**SUBJECTS TAUGHT:**

Medicinal Chemistry, Pharmaceutical Organic Chemistry, Pharmaceutical Analysis and Green Chemistry, Biopharmaceutics and Pharmacokinetics, Chemistry of Transition Metals, Formulation of Biologicals, Advanced Medicinal Chemistry, Drug Metabolism

**RESEARCH INTERESTS:**

Active Pharmaceutical Ingredients (API) Process Development; Design and Development of New Chemical Entities (NCEs) as Anticancer Agents, Cancer Stem Cell (CSC) Inhibitors; Computer-Aided Molecular Design; Synthesis of New Materials and their Biomedical Applications; Drug Repurposing; Drug Cocrystals, Prodrugs for improving Physicochemical Properties of Pharmacokinetically-intractable Drugs; Computational Studies of Novel Materials for Varied Applications

**Recognized Research guide for:** Ph. D. (Tech.) (Pharmaceutical Chemistry); Ph. D. (Sci.) (Chemistry); Ph. D. (Sci.) (Biotechnology), Guided Students: Ph. D.: 05 (Completed); Masters: 54 (Completed), Ph.D.: 11 (Ongoing), Masters: 08 (Ongoing), PDF, If any: NA, National: 09, International: 88, **Patents Published:** 24, **H-Index:** 26, **Citations:**2109, **Patents Granted:**10

**NATIONAL AND INTERNATIONAL AWARDS:**

- Fellow of Maharashtra Academy of Sciences (2022)
- Life Fellow, Indian Chemical Society (2021)
- Newton Bhabha Researcher Links Workshop 2019 (In collaboration with University of Birmingham, UK)
- Best Research Output of the Year 2017-18 given by SVKM's NMIMS (Deemed to be University), Mumbai (August 11, 2018)
- DST Foreign Travel Grant for presenting research work at Gordon Research Conference on Computer Aided Drug Design, West Dover, USA. (July 2017)
- Best Poster Award at International Conference on Pure and Applied Chemistry (ICPAC)-2016, Mauritius (July 2016)
- Indian National Science Academy (INSA) deputation under International Collaboration and Exchange Programme to University of Mauritius, Mauritius (2016)
- Best e-Presentation Award at the Virtual Conference on Computational Chemistry (VCCC)-2014 organized by University of Mauritius, Mauritius (August 1-31, 2014)
- Best Poster Award at International Conference on Pure and Applied Chemistry (ICPAC)-2014, Mauritius (June 2014)

**PROF. PADMA V. DEVARAJAN**  
*Ph. D (Tech) (Pharmaceutics)*  
**Senior Professor of Pharmacy**



### SUBJECTS TAUGHT:

Pharmaceutics, Technology of Solid Dosage Forms, Technology of Sterile Dosage Forms, Drug Delivery Systems, Targeted Drug Delivery Systems (DDS), and Formulation of Biologicals

### RESEARCH INTERESTS:

Nano drug delivery systems(DDS): Veterinary Drug Delivery Systems (DDS), Nano drug delivery systems (DDS), Targeted delivery in cancer and infectious diseases (tuberculosis, malaria, veterinary infections), New targeting ligands; Engineering nanoparticle shape, Innovative manufacturing approaches for nano system–bypassing scale up challenges, Transmucosal DDS: Nasal and Sublingual DDS for non-invasive delivery of peptide/protein/biotech molecules; Controlled release and Bio-enhanced DDS: NDA and ANDA.

**Recognized Research guide for:** M.Pharm (Pharmaceutics), M.Tech Pharmaceutical Technology, M. Tech Pharmaceutical Biotechnology, PhD – Pharmaceutics, Pharmaceutical Technology, Biotechnology, Nanotechnology, **Guided Students:** Guided students: Ph.D. 58, Masters: 91, Total Research:149, **Ph.D.:** 58, **Masters:** 91, **PDF, If any:** 2, **National:** 7, **International:** 102, **Patents Published:** 18, **H-Index:** 34, **Citations:** 4384, **Patents Granted:**18

### NATIONAL AND INTERNATIONAL AWARDS:

- “Best Contributor and Influencer in Academics 2024” in by Advantage India Conclave Award 2024 on 23rd Feb, 2024.
- “UAA-ICT Distinguished Alumnus Award 2021” in Academics category by UDCT Alumni Association and ICT, 2021.
- Fellowship of Indian Chemical Society on December 24th 2020.
- “PANJABRAO DESHMUKH OUTSTANDING WOMAN SCIENTIST AWARD 2019” of the Indian Council of Agricultural Research (ICAR) at the 92nd Annual Day celebration of ICAR on 16th July 2020.
- “PROF. N. R. KAMATH BOOK AWARD AS EDITOR” of Book titled “Intracellular Targetted Delivery” Edited by Padma V. Devarajan, Prajakta,Dandekar, Published by Springer Publication, at Annual Day of Institute of Chemical Technology, Mumbai on 4th August 2020.
- “OPPI SCIENTIST AWARD 2018” for contribution to research in Veterinary and human healthcare in infectious diseases & cancer, by Organization of Pharmaceutical Producers of India (OPPI), at OPPI’s Annual day celebration on 11th October 2018 in the Ballroom of Hotel Taj Lands End, Bandra, Mumbai.
- “IPA ACG INNOVATIVE SOLID DOSAGE FORM Award 2017” at 4th IPA ACG – SciTech Innovation Awards for “N’hance-SDFBioenhanced Solid dispersion film-based technology” by Indian Pharmaceutical Association at Chandigarh on 23rd December 2017.
- “BENGALURU NANO INDIA INNOVATION AWARD 2017” for BU’ANTRAP In situ solid lipid nanoparticles for veterinary infection at the 9th Bengaluru India Nano, organized by Karnataka Science & Technology Promotion Society (KSTePS), DST-Nano Mission in association with Jawaharlal Nehru Centrer for Advanced Scientific Research Centre (JNCASR) Bangalore, on 8th December 2017, at The Lalit Ashok, Bangalore, India.
- “EUDRAGIT AWARD 2015” for the research publication under the category of “best paper” title “Controlled release floating multiparticulates of metoprolol succinate by hot melt extrusion” published in International Journal of Pharmaceutics 2015;491(1):345-51 from Evonik India Pvt. Ltd. on 21st September 2016.
- “PROF. N. R. KAMATH BOOK AWARD AS EDITOR” of Book titled “Targeted Drug Delivery Concepts & Design” Edited by Padma V. Devarajan, Sanyog Jain, Published by Springer Publication on 5th April 2016 ICT Annual Day, at Institute of Chemical Technology, Mumbai.
- PROF.C.J. SHISHOO AWARD for Research in Pharmaceutical Sciences, conferred by the Association of Pharmaceutical Teachers of India (APTI), 2013.
- American Association of Indian Pharmaceutical Scientists (AAiPS) Distinguished Educator and Researcher Award conferred by AAiPS– 2011.
- 2008 VASVIK AWARD in the category of Smt. Chandaben Mohanbhai Patel Industrial Research Award for Women Scientists- 2011.





**Dr. GALVINA R. PEREIRA**

*B. Pharm, M. Pharm (Medicinal Natural Products), Ph. D (Tech)*  
Pharmacognosy  
**Assistant Professor**

**SUBJECTS TAUGHT:**

Pharmacognosy and Phytochemistry - I, II, II, Herbal Drug Technology, Natural Products Technology, Natural Products for Fragrances and Flavours

**RESEARCH INTERESTS:**

Natural products, extraction and isolation technology development, and preparation of semisynthetic derivatives, Standardization of herbal formulations, Analytical method development, and Forced degradation studies, Nutraceutical product development, Development of natural colourants

**Recognized Research guide for:** Master of Pharmacy, Master of Pharmaceutical Chemistry and Technology, M. Tech Perfumery and Flavour Technology

Guided Students: Masters : 01 (Completed ), Ph.D.: Nil, Masters: 03 (Ongoing), PDF, If any: NIL, National: 6, International: 3, **Patents**

**Published:** NIL, **H-Index:** 5, **Citations:**56, **Patents Granted:**NIL

**NATIONAL AND INTERNATIONAL AWARDS:**

- First Winner of Massachusetts Institute of Technology COVID-19 Challenge, Latin America Vs COVID19, Track D: Healthcare workforce wellbeing (All population well-being) management and training held on 19th -21st June 2020
- Awarded Senior Research Fellowship under University Grants Commission – Special Assistance Program (UGC -SAP) for five years on the project “Studies on Naturally Occurring Benzoquinones and Naphthoquinones from Medicinal Plants”
- Awarded Junior Research Fellowship by University Grants Commission (UGC) for the period of two years during master’s degree (2006-2008) on the project “Studies on Naturally Occurring Anthraquinones”.

**Dr. SATHISH DYAWANAPELLY**

*PhD Tech in Pharmaceutical Technology*

**Assistant Professor**



**SUBJECTS TAUGHT:**

1. Drug Delivery Technology (PG),
2. Industrial Pharmacy I (UG),
3. Industrial Pharmacy (PG),
4. Pharmaceutical Technology Laboratory (PG),
5. Advanced Pharmaceutics Laboratory (PG),
6. Pharmaceutical Formulation Technology Laboratory (UG),
7. Pharmaceutical Formulation Technology ]

**RESEARCH INTERESTS:**

Design and Development of Drug Delivery Systems (Polymer, Lipid, and Metal Nanoparticles), Nanomedicines, and Nutraceuticals

Publications: National: 0, International: 39, **Patents Published:** 1, **H-Index:** 20, **Citations:**13



# Department of POLYMER AND SURFACE ENGINEERING







**PROF. ANAGHA S SABNIS**

*Ph.D. (Tech.) (Paint Technology)*

Professor of Paint Technology

**Head of the Department**





## 2.7 DEPARTMENT OF POLYMER AND SURFACE ENGINEERING

### VISION :

Empowering skills and knowledge about latest Research in the field of Polymer and Surface Coating Technologies.

### MISSION :

To Pursue world class Programs on Excellence in Education and Research in the area of Polymer and Coating Technology for the sustainable development of Industries that require trouble shooting competencies in these core areas of knowledge.

The Department of Polymer and Surface Engineering has undergone changes in its nomenclature and was established in 1946. Earlier it was known as Paints, Pigments and Varnishes (PPV) Section and was steered in the beginning by none other than Professor N.R. Kamath, a famous chemical engineer, graduate of first batch of B.Sc. (Tech.), in 1936, who later migrated to IIT-Bombay as Head of Chemical Engineering and Deputy Director. The B.Sc. (Tech.) courses in plastics and paints technologies were started in 1946 and have been popular throughout the world. Several small and medium industries covering plastics, paint, printing ink, adhesive, sealers and allied industries have been founded by the graduates of the Department and maintained excellent connectivity with industry.

The Department runs two B. Tech. programmes: Polymer Engineering and Technology, and Surface Coating Technology

### What is Polymer Science and Engineering

Polymers are macromolecule that contains many monomer units, typically tens of thousands to millions. While many polymers occur naturally as products of biological processes, synthetic polymers are made by chemical processes that combine many monomers, together in chains, branched chains, or more complicated geometries. Starch, cellulose, proteins, and DNA are examples of natural polymers, while polyolefins, nylon, PET, ABS, Teflon, and PEEK etc. are examples of the synthetic variety. Both classes possess a number of highly useful properties that are as much a consequence of the large size of these molecules as of their chemical composition. Although most synthetic polymers are organic, that is, they contain carbon as an essential element along their chains, other important polymers, such as silicones, are based on noncarbon elements.

The rapid pace of advances in polymers, particularly after World War II, has been remarkable and the birth of this discipline in ICT in mid-1940s was timely. Synthetic polymers are so well integrated into the fabric of society that we take little notice of our dependence on them, whether it is health, medicine, clothing, transportation, housing, defense, energy, electronics, employment, space, and trade. Without a doubt, synthetic polymers have large impacts on our lives.

Although progress in polymer science and engineering can be considered ground-breaking, opportunities are abundant for creating new polymeric materials and modifying existing polymers for new applications; depolymerization and polymer recycling; oxo and biodegradable polymers; nano-composites, and the like. Scientific understanding is now replacing empiricism, and polymeric materials can be designed on the molecular scale to meet the ever more demanding needs of advanced technology. The possible control of synthetic processes by biological systems is promising as a means of perfecting structures. New catalysts offer the opportunity to make new materials with useful properties, and the design of new specialty polymers with high-value-added applications is an area of rapidly increasing emphasis. Theory, based in part on the



availability of high-speed computing, offers new understanding and aids in the development of improved techniques for preparing polymers as well as predicting their properties. Analytical methods, including an array of new microscopic techniques particularly suited to polymers, have been developed recently and promise to work hand-in-hand with theoretical advances to provide a rational approach to developing new polymers and polymer products. The field of polymer science and engineering therefore shows no sign of diminished vigor, assuring new applications in medicine, biotechnology, electronics, and communications that will multiply the investment in research many times over in the next few decades.

The education provided to the students is the blend of practice and theory related to polymer science and engineering. The students learn to develop systems which are economically feasible and environmentally acceptable.

### **What is Surface Coating Technology?**

Coating applied on other surface of the materials for the decoration and protection. The surface coating change aesthetic properties such as color, gloss, texture and functional properties like resistance to wear, chemical attack, permeability, weathering resistance without changing the bulk properties. These materials includes coatings, adhesives, sealants, varnishes, enamels, lacquers. Initially coating were solvent based however, the volatile organic compounds are compelling to develop ecofriendly coatings like water based, high solids coatings, powder coatings and radiation curable coatings. In general, organic coatings are based on a vehicle, usually a resin, which, after being spread out in a relatively thin film, changes to a solid. This change, called drying, may be due entirely to evaporation (solvent or water), or it may be caused by a chemical reaction, such as oxidation or polymerization. The materials providing the hiding are the opaque materials called pigments, dispersed in the vehicle, contribute colour, opacity, and increased durability and resistance.

The physical, chemical and mechanical properties of a material surface determine its applicability in many technical devices. Numerous applications could not be realized without the use of surface modifications, coatings and thin film technology. Therefore, the need for efficient and effective methods of surface modification is becoming increasingly evident to allow the production of far superior products in terms of wear resistance, corrosion protection, enhanced biocompatibility, thermal insulation, improved optical and altered electronic properties. Coating technologies of particular interest include physical and chemical vapor deposition, thermal spraying, electrochemical deposition, sol-gel-syntheses, and plating. Surface modification includes directed energy techniques such as ion, electron and laser beams as well as etching procedures and thermo-chemical diffusion. Beyond that, mono-layers (e.g. SAM, Langmuir-Blodgett) have attained high significance in preparing thin films to modify biomedical surfaces. Recent novel techniques to prepare patterned surfaces (e.g. nano-imprint lithography, micro-contact printing) have proven their potential for the fabrication of integrated circuits and bioactive implants. Thus, this course offers an exciting field of study.

New trends related to surface engineering and coating technology for the synthesis of functional materials surfaces including novel fabrication methods, materials and applications, new characterization techniques as well as numerical simulation and modeling are some of the areas of research.

The Department is supported by UGC, DST, BRNS, etc.





**Dr. ANAGHA S. SABNIS**

*B.Sc. (Tech.), M.Sc. (Tech.), Ph.D. (Tech.)*

**Associate Professor in Technology of Plastics and Paints**

**SUBJECTS TAUGHT:**

Analysis and characterization of raw materials and polymers I, Pigments and additives for polymers, Paint Technology I, Processing of Paints I, Insulating and Intumescent coatings, Processing of Paints II, Analysis and Testing of Paints, Processing of Paints IV, Advance polymer science I, Additives for coatings

**RESEARCH INTERESTS:**

Coatings based on renewable resources materials, Recycling of polymer waste and coatings thereof, Advancement in anticorrosive coatings Flame retardant coatings, Nonisocyanate polyurethane coatings etc.

**Recognized Research Guide for:** Ph.D. (Tech.) / M.Tech. in Polymer Engineering & Technology, Ph.D. (Tech.) / M.Tech. in Surface Coating Technology, Ph.D. (Science) in Chemistry, Guided Students: Ph.D.: 05, Ongoing 05, Masters: 56, Ongoing: 12, Total Publications: International: 79 (Scopus), Total **Citations:** 1864 (Scopus), **H-Index:** 24 (Scopus), Patents: Granted 02, Applied 04

**AWARDS:**

- Recipient of 8<sup>th</sup> National Awards for Technology Innovation in Petrochemical & Downstream Plastics Processing Industry (2017-18), Govt. of India (Second Rank)
- CRISP fellowship by Cherening (UK Govt.) and Rolls Royce.
- Super Achiever Award for Excellence in research in Polymers and Paint Technology, (WISE) (UNESCO)

**PROF. R. N. JAGTAP**

*B.Sc., B.Sc. (Tech.), M.Sc. (Tech.), Ph.D. Tech.*

**Professor of Paint Technology**

**SUBJECTS TAUGHT:**

Advanced Surface Coating Technology, High Performance Coatings, Technology of Printing Inks, Specialty Plastics, Paint Processing and Characterization, Radiation Curable Coating, Environmentally Friendly Coatings, Additives for polymers, Specialty Polymers, Polyelectrolyte and ionomers

**RESEARCH INTEREST:**

Biopolymers for coatings, adhesives and biodegradable packaging films, Resins for Radiation curable coatings, 3D Printing, Microencapsulation, Controlled Radical Polymerization for Tailor-made Polymers, High temperature and corrosion resistant coating, Recycling of polymers from waste to wealth.

**Recognized Research Guide for:** M.Tech., Ph.D, Surface Coating Technology, M.Tech., Ph.D, Polymer Engineering and Technology, M.Tech., Ph.D, Green Technology, Chemistry, Ph.D. Science in Chemistry

Guided Students: Ph.D. 15, Ongoing: 6, Masters: 120

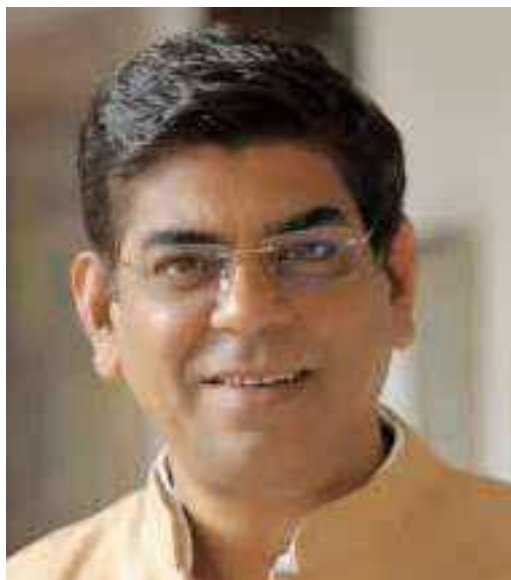
Total Research Publications: International: 58 (Scopus), Total **Citations:** 714 (Scopus), **H-Index:** 17 (Scopus), Patents: Granted 05, Applied 03

**AWARDS:**

- Member, FSSAI Scientific panel on Packaging







**PROF. (Dr.) SHASHANK T. MHASKE**

*Ph.D. (Tech) (Polymer Technology)*

**Dean (Research and Innovation), Director, ICT Jalna campus  
Professor of Polymer Technology**

**SUBJECTS TAUGHT:**

Introduction of Polymer Engg & Technology Compounding and Polymer Processing, Evaluation and Characterization of Polymers, Nanotechnology and their Application, Polymer Blends and Alloys.

**RESEARCH INTERESTS:**

Utilization of Bioresources for Value-added Products, Sustainability and Circular Economy of Polymers, Ecological and Economical Product and Process Developments towards Commercialization, Rheology of Polymers.

**Recognized Research guide for:** M. Tech/ Ph.D. (Tech) in Polymer Engineering & Technology, M. Tech/ Ph.D. (Tech) in Surface Coating Technology, M. Tech/ Ph.D. (Tech) in Green Technology, Ph. D (Science) in Chemistry.

Guided Students: Ph.D. (Tech.): Completed – 19, Ongoing - 10, Ph.D. (Sc): Completed – 04, Ongoing - 4, M. Tech.: Completed – 92, Ongoing – 14. **PDF, If any:** NA, **National:** NA, **International:** 207, **Patents Published:** 06, **H-Index:** 32, **Citations:** 4051, **Patents Granted:** 06, **European:** 02 (Granted), **Indian:** 04 (Granted), 02 (Filed)

**NATIONAL AND INTERNATIONAL AWARDS:**

- Academic Excellence Award by Bearlocher Ltd
- National Award for Technology Innovation in “Green Polymeric Materials & Products” By Dept. of Chemicals and petrochemicals, Ministry of Chemicals and Fertilizers. Govt. of India.
- Fellow, Maharashtra Academy of Sciences. Govt. of Maharashtra.
- Best Teacher Award, Dept. of Polymer & Surface Engg, ICT (2015)
- Young Associate, of Maharashtra Academy of Sciences. Govt. of Maharashtra.
- Editor to Economic Times- “Polymer” Journal Governing Council member of Indian council for Plastics and Environment (ICPE)
- Expert to Technical Advisory Committee (TAC) of LPG Equipment Research Centre (LERC) – Joint Venture of BPCL, IOCL and HPCL.
- Academic Council member, PlastIndia International University.
- Auditor for auditing of Producers/Importers & Brand-owners (PIBOs)
- Plastic Waste Processors (PWPs), Central Pollution Control Board (CPCB), Ministry of Environment, Forest and Climate Change, Govt. of India.
- Technical Expert, Plastic Waste Committee, Maharashtra Pollution Control Board (MPCB), Single Plastic Use, Environmental Ministry of Govt. of Maharashtra.

**Dr. DIPAK V. PINJARI**

*B.Tech. M.Tech. Ph.D. (Tech) Chemical Engg*

**Associate Dean (Student and Alumni Affairs), UGC Assistant Professor (Engg. Sciences) and DST Inspire Faculty Fellow**



**SUBJECTS TAUGHT:**

Environment Health and Safety of Polymers and Coating, Structure Property relationship of polymers, High Polymer Chemistry, Introduction to Polymer Science, Advanced Characterization Laboratory of Polymers, Introduction to Nanotechnology, Environmental Sci. & Tech.

**RESEARCH INTERESTS:**

Cavitation Engineering and Technology, Fiber Science, Cellulose Chemistry and Application, Synthesis of Nanomaterials, Polymer Engineering and Technology, Surface Coating and Technology and Sustainable Developments

**Recognized Research Guide for:** Ph.D. (Tech.) / M.Tech. in Polymer Engineering & Technology, Ph.D. (Tech.) / M.Tech. in Surface Coating Technology, Ph.D. (Tech.) in Chemical Engineering, Ph.D. (Science) in Chemistry, M.Tech in Perfumery and Flavours Technology, M.Tech in Bioprocess Technology

Guided Students: Ph.D.: 06, Ongoing 06, Masters: 15, Ongoing: 10

Research Publications: International: 100 (Scopus), **Citations:** 4616 (Scopus), **H-Index:** 36 (Scopus), Patents: Granted 01, Applied 06

**AWARDS:**

- Fellow, Maharashtra Academy of Science (2022)
- Guest Editor, Chemical Engineering and Processing: Process Intensification (Voices of Young Generation: Process Intensification), an Elsevier Journal.
- Member, The National Academy of Sciences, Allahabad, India (NASI) 2020 – till date
- Member, Early Career Advisory Board, Chemical Engineering and Processing: Process Intensification, an Elsevier Journal.
- Expert Member of the Department of Science and Technology (Multilateral Department) for the first SCO Young Scientist Conclave 2020 (to be organized in India). Shanghai Cooperation Organization (SCO) consists of 8 countries.
- SPS Young Scientist Award 2019 by Scientific Planet Society, Dehradun, India
- BRICS Young Scientist Award 2019 by Ministry of Science and Technology of BRICS Countries (Brazil, Russia, Indian, China and South Africa).
- Accolades from Qingdao International Academy Park (QIAP), Government of China for work in the area of Material Science and Chemical Engineering. The QIAP has requested to join the park in June 2019.
- Member, Global Young Academy, Germany (2019-2024)
- Awarded Infosys Social Innovation Award 2018-2019 by Infosys Foundation, Bengaluru, India.
- INAE Young Associate 2017 by The Indian National Academy of Engineers, New Delhi, India
- INAE Young Engineer Award 2016 by The Indian National Academy of Engineers, New Delhi, India
- Finalist, INSA Medal for Young Scientist 2015 and 2016
- Finalist, NASI Young Scientist Awards 2014 and 2015
- Awarded Fulbright OLF Award 2015 by OIE and CIES (State Departments, US Federal Government, Washington, USA)
- Awarded Young Engineers Award 2014-2015 by The Institution of Engineers (India)
- Awarded Wipro Earthian Award 2013 by Wipro foundation, Bangalore (India)
- Young Associate, Maharashtra Academy of Science (2013)
- Awarded M. P. Chary Memorial Award 2013 for research and technological contribution (below 35 years) by Indian Institute of Chemical Engineers (IChE), India.

**Dr. ADINATH R. RAO**

*B.Tech., M.Tech., Ph.D. (Tech.)*

**Assistant Professor of Polymer Technology**



**SUBJECTS TAUGHT:**

Technology of Thermoplastics, Processing of Polymers, Polymer Composites and Postprocessing of polymers, Analysis and Characterization of polymers. Advanced Characterizations of Polymers.

**RESEARCH INTERESTS:**

Bio polymers and Biobased polymers, Biodegradable and biodegradation study of Polymers, Polyurethane Resins, Polymer blends, Control Radical Polymerization, Anti-corrosive coatings, Polymer Nanocomposites, Phase Change materials, Shape memory Polymers, Flame retardant additive development. Photopolymerization

**Recognized Research guide for:** M.Tech., Ph.D, Surface Coating Technology, M.Tech., Ph.D, Polymer Engineering and Technology, Ph.D. Science in Chemistry, Guided Students: Ph.D.: ongoing :2, Masters: 20, Ongoing 10, PDF, If any: Nil, National: 4, International: 9, **Patents Published:** 3, **H-Index:** 4, **Citations:**120

**NATIONAL AND INTERNATIONAL AWARDS:**

Recipient of AICTE-RPS Research Grant



**Dr. AARTI P. MORE**

*Ph.D. Tech. in Surface Coating Technology*

**Assistant Professor**

**SUBJECTS TAUGHT:**

Polymer science and technology, High Polymer Chemistry, Identification of resins and polymers lab, Structure-property relationships in Polymers, Nanomaterials, Synthesis, and characterization of resin and polymers lab, Synthesis, processing and characteristics

**RESEARCH INTERESTS:**

Nanoparticles, Anticorrosive coating, Layered Double Hydroxide, Bio-based Resin, Conductive polymers, Polymer composites

**Recognized Research guide for:** Ph.D. (Tech.) / M.Tech. in Polymer Engineering & Technology Ph.D. (Tech.) / M.Tech. in Surface Coating Technology, **Guided Students:** Masters: 4, PDF, If any: 0, **International Publications:** 42, **Patents Published:** 0, **H-Index:** 13, **Citations:**499







# Department of CHEMISTRY



**PROF. ATUL CHASKAR**

*M.Sc., Ph.D.*

**Professor in Chemistry**

**Head, Department of Chemistry**

## 2.8 DEPARTMENT OF CHEMISTRY

### VISION:

To be a nationally recognized chemistry resource centre, making noteworthy academic contribution and undertaking contemporary and relevant research.

### MISSION:

- To induct and retain competent and committed personnel
- To produce quality publication and proficient man power
- To collaborate with Industry and academic centres of excellence
- To undertake sponsored projects of national and social relevance
- To participate in state and national level educational programmes
- To conduct relevant and contemporary M.Sc. and Ph.D programmes

### PROFILE:

Department of Chemistry was established in 1951 to cater the responsibility of teaching basic chemistry. The department shoulders the responsibility of conducting chemistry courses, theory as well as practical for undergraduate programmes of all the three branches, viz., B.Chem.engg., B. Tech. and B. Pharm. The Department also offers admission to Ph.D. (Science) Chemistry, Ph.D. (Science) Biotechnology, Ph.D.(Tech.) chemical engineering programme and the intake of students varies based on the vacancies with the faculty members. Department has started M.Sc. (Chemistry) two years course by papers with an intake capacity of 20 from Academic Year 2010-2011. The programme is accredited by the Royal Society of Chemistry, UK in 2014.



Organic Chemistry Undergraduate laboratory and three research laboratories renovated to state-of-art standards



- Major upgrading of equipments for UG, PG practicals as well as research facilities
- Three GC units reinstalled for UG and PG practicals with generous support from UAA
- Raman spectrometer acquired and installed

The Department is active in teaching, research and industrial collaborative work. Considering the contributions the department has been recognised by the university Grant Commission, under special Assistance Programme (SAP), Departmental Research Support (DRS-II) and DST-FIST Programme. Through this programme the Department has 10 Ph.D. fellowships to offer. The faculty members are actively engaged in research areas of current relevance. The research work carried out in the department is funded by the research projects sponsored by funding agencies like UGC, CSIR, DAE, IGCAR and DST. Some of the faculty members are



carrying out research in collaboration with reputed organisation from both India and abroad. In the last five years the department has published more than 200 research publications in international journals of repute with an average impact factor of more than two. The work is also recognised well in term of large number of citations(more than 5000) The faculty member is actively involved in several extra-mural academic activities, like the Indian National Chemistry Olympiad, National Initiative for Undergraduate Sciences (NIUS).Currently the department has 45 Ph.D. and 37 M.Sc. Students. The Students who have obtained doctoral degrees from the Department get attractive placements in industries and research institution. The research students of the department assist the faculty in conducting undergraduate courses. This helps them in their personal development.

The Department is equipped with sophisticated instruments such as FTIR, UV-VIS, Spectrophotometer, GC-MS, gas chromatographs, HPLC, Zetameter, Viscometer, Microwave synthesizer, Digital polarimeter, computer workstation,Electrochemical Workstation, Vapour pressure reactor,supercritical carbon dioxide reactor, surface area analyser, high pressure reactors, Tensiometer, X-Ray diffraction unit The Department has several endowments through which, experts from various leading research institutes working in frontier areas in Science and Technology are invited for lectures and interaction.



### PROF. ATUL CHASKAR

M.Sc., Ph.D.

Professor in Chemistry



#### SUBJECTS TAUGHT:

Organic Reaction Mechanism, Organic Spectroscopy, Material Chemistry

#### RESEARCH INTERESTS:

Design and development of novel synthetic protocols for the synthesis of bioactive scaffolds, API and impurities. Multistep synthesis of bioactive molecules. Metal-free and metal-mediated synthesis of organic molecules. Green Chemistry. Molecular engineering for optoelectronics and photovoltaics. Development of chemo-sensors for explosive and heavy metal ion detection. Nanomedicine (Diagnostic and Theranostics) Drug delivery-sustained and targeted approach. Synthesis of nanomaterials and their applications in catalysis, material science, pharmaceuticals and biotechnology. Homogeneous and Heterogeneous catalysis  
**Recognized Research guide for:** Ph.D. in Chemistry **Guided Students:** 37, **Ph.D.:** 07, **Masters:** 29, **PDF, If any:** 01, **National:** 02, **International:** 123, **Patents Published:** 04, **H-Index:** 31, **Citations:**3028, **Patents Granted:**00

#### NATIONAL AND INTERNATIONAL AWARDS:

- 1.Dr. Arvind Kumar Memorial Award (2018) by Indian Council of Chemists (ICC)
- 2.Member, The National Academy of Sciences, India (NASI), 2019
- 3.Fellow, Maharashtra Academy of Sciences-2016 (BLF1032)
- 4.DST Fast Track Young Scientist -2013 (SB/FT/CS-147/2013)

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### PROF. BHALCHANDRA M. BHANAGE

M.Sc, Ph.D. (FRSC, FMASc, FBRI, FICS)

Senior Professor

#### SUBJECTS TAUGHT:

Industrial Chemistry, Catalysis

#### RESEARCH INTERESTS:

**Recognized Research guide for:** Chemistry, Green Tech., Chem. Eng.,  
**Guided Students:** 79, **Ph.D.:** 55, **Masters:** 24, **PDF, If any:** 3, **National:** 3,  
**International:** 475, **Patents Published:** 5, **H-Index:** 73, **Citations:** 20898,  
**Patents Granted:**32

#### NATIONAL AND INTERNATIONAL AWARDS:

- Fellow of the Royal Society of Chemistry, UK (FRSC)
- Fellow of the Biotech Research Society of India (FBRSI).
- Fellow of the Indian Chemical Society (FICS)
- Fellow of the Maharashtra Academy of Sciences (FMASc)
- Bronze Medal for Contributions in Research by Chemical Research Society of India, 2012
- ISMA Outstanding Professor Award by Indian Specialty Chemical Manufacturer Association for excellence in academic field for the year 2012, 1205, 2017-18
- Prof. M.M. Sharma Science and Technology Award (Rs 1 lakh and Citation) for contributions in research by Marathi Vidnyan Parishad, 2014
- South Indian Education Society's Best Teacher Award 2017-18
- Dr Sarojini Devi Memorial Award, by Higher Education Forum, 2018
- Dr R.S. Verma Memorial Award by Indian Chemical Society, 2023.

<https://bmbhanage.weebly.com/>



**Dr. PAVAN M. MORE**

*M.Sc., Ph.D.*

**Assistant Professor**

**SUBJECTS TAUGHT:**

Analytical Chemistry, Instrumental Methods of Analysis. Analytical chemistry Lab.

**RESEARCH INTERESTS:**

Development of the analysis method for industrial samples, Vapor phase oxidation of organic compounds into valuable products (flow Chemistry). Selective oxidation of biomass/waste biomass into speciality chemicals/fuel/flavours/fragrances and the like, Catalyst development for environmental application, Oxidation of diesel engine exhaust and Volatile organic compound into  $\text{CO}_2$  using a catalyst, Selective oxidation of hydrocarbon into valuable chemicals, Reduction of  $\text{NO}_x$  into  $\text{N}_2$  from stationary (Genset etc.) and mobile (Car etc.) sources.

**Recognized Research guide for:** Chemistry

**Guided Students:** PhD-03, MSc- 15, **Ph.D.:** 03, **Masters:** 15, **PDF, If any:** 0, **National:** 01, **International:** 24, **Patents Published:** 01, **H-Index:** 12, **Citations:** 404, **Patents Granted:** 01

**NATIONAL AND INTERNATIONAL AWARDS:**

Early career research award by SERB (DST)

<https://www.linkedin.com/in/pavan-more-60ba38121/?originalSubdomain=in>







**DR. ANANT R. KAPDI**  
Ph.D.  
UGC-FRP Assistant Professor

**SUBJECTS TAUGHT:**

Organic Chemistry, Natural Products, Organometallic Chemistry, Heterocyclic Chemistry, Instrumentation Laboratory, Organic Chemistry Practical Laboratory

**RESEARCH INTERESTS:**

Palladium and Copper catalysis, Nucleoside and Heteroarene modification, Commercial Scale optimization, New Mechanism Development, Methodology development, Drug synthesis, New product development

**Recognized Research guide for:** Chemistry, **Guided Students:** 58, **Ph.D.:**

13, **Masters:** 45, **PDF, If any:** 2, **National:** 2, **International:** 120, **H-Index:** 38, **Citations:**7669

**NATIONAL AND INTERNATIONAL AWARDS:**

- Fellow of Royal Society of Chemistry, London as Leaders in the Field category, 2021
- British Council UK Education Alumni award finalist 2021-22.
- Awarded the Prof. M. M. Sharma Award for Science and Technology by the Marathi Vidnyan Parishad Dec 2023
- Thieme Journal Awardee for 2024
- Asian Journal of Organic Chemistry (Wiley) Lecture Award 2023
- C. B. Murarka Best Assistant Professor Award 2018-19: Rolling trophy
- Fellow of Maharashtra Academy of Sciences, 2016
- Prof. N. R. Kamath Book Award for publishing a book on the topic of Strategies for Palladium-Catalyzed Non-Directed and Directed C-H Bond Functionalization. Volume 1: Latest Trends in Palladium Chemistry) Eds. A. R. Kapdi, D. Maiti, Elsevier, New York, 2017 (Rs. 30,000/- award prize)
- DAAD Fellowship for Scientists with Prof. Moniek Tromp in Catalysis Research Centre, Technische Universitat Munchen, Germany.(not availed)
- Alexander Von Humboldt Fellowship for Postdoctoral Research for carrying out postdoctoral research under the supervision of Prof. Lutz Ackermann in Georg-August-UniversitaetGoettingen, Germany (June 2008 to March 2010).
- Alexander von Humboldt Return Fellowship(25th May 2013 to 25thJuly 2013) - with Prof. Moniek Tromp in Catalysis Research Centre, Technische Universitat Munchen, Germany.
- Book Fund Award by Alexander von Humboldt Foundation worth Eur 1,000 (2013).
- Book Fund Award by Alexander von Humboldt Foundation worth Eur 1,000 (2010).

<https://kapdigroupresearch.com/about-anant>

**Dr. VIJAY KUMAR A.**  
Ph.D.  
Assistant Professor in Organic Chemistry

**SUBJECTS TAUGHT:**

Organic Chemistry, Stereochemistry, Biochemistry, Organic Synthesis

**RESEARCH INTERESTS:**

Biomimetic Organic Synthesis, Chemical Biology: Adjuvants Synthesis, Organic Synthesis: Total Synthesis & Methodology: Biosynthetic approach, Enzyme mimics using Supramolecules

**Recognized Research guide for:** Chemistry

**Guided Students:** 21, **Ph.D.:** 5, **Masters:** 16, **PDF, If any:** 0, **National:** 0, **International:** 42, **Patents Published:** 1, **H-Index:** 24, **Citations:**2106, **Patents Granted:**1

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**Dr. SHRAEDDHA TIWARI**

*M. Sc. Ph. D.*

**Associate Dean (Academic Programmes), Assistant Professor in Physical and Inorganic Chemistry**

**SUBJECTS TAUGHT:**

Physical Chemistry, Physical Pharmacy, Analytical Chemistry, Instrumental Methods of Analysis, Surface and Interfacial Chemistry, Computational Chemistry

**RESEARCH INTERESTS:**

Neoteric solvents (ionic liquids / deep eutectic solvents), Mechanistic studies of Organic Reactions, Vibrational Spectroscopy, Chemical processes in confined media, Interfacial processes / 'on water' processes

**Recognized Research Guide For Chemistry:** Guided students: Ph.D.: 04, Masters: M. Sc.: 14, **Total Research Publications:** International: 26, **H-Index:** 11, **Citations:** 393

**AWARDS:**

- Mentor (India), 56th International Chemistry Olympiad Saudi Arabia, July 2024
- Scientific Observer, 55th International Chemistry Olympiad Switzerland, July 2023
- Best Teacher Award, CMP Endowment (2017)
- Best Teacher Appreciation Award, CMP Endowment, Department of Chemistry (2014)

<https://www.linkedin.com/in/shraeddha-tiwari-ictmumbai/>

**Dr. RAHUL V. PINJARI**

*M. Sc. Ph. D.*

**Assistant Professor**

**SUBJECTS TAUGHT:**

Solid State Chemistry and Group Theory, Spectrochemical Methods of Analysis, Computers in Chemistry, Molecular Spectroscopy, Organic Spectroscopy, Techniques in Forensic Chemistry, Computational Chemistry Lab, Analytical Chemistry Lab

**RESEARCH INTERESTS:**

Computational Chemistry, Reaction mechanism, Host-guest Chemistry, Prediction and analysis of X-Ray/UV-vis/Raman/IR/NMR/fluorescence spectra, CO<sub>2</sub> reduction, H<sub>2</sub> Production, Analytical Method Development

**Recognized Research guide for:** Chemistry

**Guided Students:** 33, **Ph.D.:** 3, **Masters:** 30, **PDE, If any:** 1, **National:** 3, **International:** 45, **Patents Published:** 0, **H-Index:** 17, **Citations:** 1086, **Patents Granted:** 0

**NATIONAL AND INTERNATIONAL AWARDS:**

- INSA Visiting Research Fellowship (2021)
- Carl Trigger Postdoctoral Fellowship, Uppsala University, Sweden (2012-14)

<https://www.linkedin.com/in/rahul-pinjari-b53a498b/?originalSubdomain=se>







# Department of GENERAL ENGINEERING





**PROF. R.S.N. SAHAI**

*B.E (Mechanical Engineering)*

*M.E (Plastic Engineering)*

*Ph.D. (Tech.) Mechanical Engineering*

*Professor of Mechanical Engineering*

**Head of the Department**



## 2.9 DEPARTMENT OF GENERAL ENGINEERING

### VISION :

The department aspires to contribute to India through excellence in technical education and research, and shaping a future where research, education, and sustainability come together to meet the evolving country needs.

### MISSION :

M1: To develop the necessary skills in students with the current scenario, through collaboration with industries and research organization, to meet the expectations of the industries.

M2: To undertake multi-disciplinary research and industry projects and to encourage innovation, growth and development in the emerging areas of new materials and technology.

M3: To nurture analytical thinking, leadership qualities, and teamwork among students through a holistic curriculum complemented by co-curricular, extra-curricular, and professional activities.

M4: To empower students to become entrepreneurs and job creators, contributing to India's economic growth by fostering an entrepreneurial mindset and driving innovation.

The General Engineering Department of the Institute was established in the year 1954 and is involved in teaching undergraduate as well as postgraduate students of the institute. The department has laboratories such as workshop, electrical and electronics laboratory, Applied mechanics and Strength of materials, and computer aided design and drawing laboratories. The department has licensed CAD and CAE software such as Mold flow, Pro-engineer and Solid Works with high-end computer facilities. These laboratories cater to the needs of the undergraduate and post graduate students of the department and the Institute.

The department is having specialized teaching faculty from mechanical, plastics, production, civil, electrical and electronics branches. Most of the faculty are guides for the master's and doctoral programs of the institute. Besides teaching and research, departmental faculty members hold positions as members of various in-house committees to help the management of the institute. Students can take up research in multidisciplinary areas.

The Department is running a full-time master's Program M. E. in Plastics Engineering from 1972, the course is accredited by National Board of Accreditation. Students having basic qualifications in Mechanical, Production, Plastic/ polymer, Electrical and chemical engineering and technology are eligible for admission to this course. The course consists of curriculum on Processing of plastics, composites, Design of Molds, Design of processing tools/ machinery, CAD, CAM and CAE, Testing of plastics and Polymer applications in various fields of engineering. Development of new materials for industrial as well as domestic applications.

The department has a provision for special facilities for processing plastic and polymer composites, testing of plastics, and computer aided design and drawing laboratories. The Department has plastic processing equipment such as micro-processor-controlled injection molding machine with molds of standard mechanical test pieces, blow molding machine, rotational molding machine, and as well as twin screw extruder. The department has a facility of Plastic Testing such as impact tester, MFI tester, hardness tester etc.

The department has recently set up an Environmental Engineering Laboratory with a facility of Synthesis of polymeric filter media membrane for water and wastewater treatment. The laboratory is well equipped with facilities for analysis of water and wastewater. All these laboratory facilities are used by M E and Ph.D. students to do their research work. GATE qualified candidates for M. E. in Plastics Engineering receive AICTE fellowship.

Candidates can register for Ph. D. in Plastics/ Mechanical/ Production/ Electrical/ Electronics/ Civil/ Engineering either full time or as external candidates (Only for teachers/ employees from Government organizations). In recent years enrolling for Ph.D. in the department has increased



substantially. Presently the number of Ph.D. students enrolled in the department in various branches are: 27 in Mechanical Engineering, 06 in Civil Engineering, 06 in Plastic Engineering, 7 in Electrical Engineering and 03 in Electronics Engineering etc. AICTE Doctoral students, National Doctoral Fellowship. Industry sponsored Ph.D. students from BASF, L&T and Dow Chemicals are registered as Doctoral and Master's students in the department.

Recently the department faculty has been awarded one national patent based on the work done in the recently set up Environmental Engineering laboratory under DST funded project. The patent is on "Continuous extraction of pure water from feed with resaturation and reuse of draw". The technology is successfully implemented at Ausa, district: Latur. Department is also involved in execution of Research project funded by DST, under this project a lake is rejuvenated, 5000lits/hr. R O plant is set up which is catering the treated water needs of Ausa town. Another major project under Rajiv Gandhi Science and Technology Commission of Govt of Maharashtra is being executed by one of the faculty.

The department is also responsible for Civil and Electrical maintenance of infrastructure such as institute buildings, laboratories, faculty quarters and hostels. The department is actively involved in the development of the new buildings and infrastructural facilities in all the campuses. The department is also involved in liasoning with BEST and Municipal Corporation for all the requirements of the institute.



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**PROF. R.S.N. SAHAI**

*Ph.D. (Tech), M.E(Plastic Engineering), B.E(Mechanical)*

**Professor of Mechanical Engineering**

**SUBJECTS TAUGHT:**

Energy Engineering, Processing of Plastics, Processing and Mechanics of Polymer Composites, Principle of Plastic Machinery Design, Advance Polymer based Materials in Engineering Applications, Engineering Graphics I and II

**RESEARCH INTERESTS:**

Solar Energy, Applications of Polymer composites in Mechanical Engineering, Natural Fiber Composites Hybrid Composites, Nano composites, Refrigeration, Thermal Engineering.

**Recognized Research guide for:** PPh.D. Tech in (Mechanical Engg.), M.E (Plastic Engg.), and Ph.D. Tech (Plastic Engg.), Students Guided: Ph.D.: Completed: 05, Ongoing: 07, Masters: Completed: 24, Ongoing: 02, International: 26, **Patents Published:** Filed: 01, **H-Index:** 05, **Citations:**104, Industrial Experience: 5years

**DR. PRERNA GOSWAMI**

*B.E (Electrical), M.E. (Instrumentation and Control), Ph.D. (Tech) (Electrical Engg.) (Mumbai)*

**Associate Professor in General Engineering (Electrical)**

**SUBJECTS TAUGHT:**

Electrical Engineering and Electronics (Theory and laboratory), Advanced Polymer Based Materials in Engineering

**RESEARCH INTERESTS:**

Sustainable Energy and MATLAB simulations

**Recognized Research guide for:** PPh.D. (Tech.) in Electrical and Electronics Engineering, Guided Students: Ph.D.: Completed 02; Ongoing: 10, PDF if any: nil, National: 10, International: 30, **H-Index:** 8, **Citations:**215 Patents: Published : 1



**DR. DEEPANKAR BISWAS**

*B.E. (Mechanical) (Mumbai 2012), M.E Mechanical-Thermal Engg. (Mumbai 2014), Ph.D. (Tech) (Mechanical Engg.) (ICT Mumbai 2020)*

**Assistant Professor of Mechanical Engineering**

**SUBJECTS TAUGHT:**

Energy Engineering, Engineering Graphics-I, CAD-CAE, Plastic Product Design and Testing of Plastics, Finite Element Analysis, Equipment Design and Drawing, Basic Mechanical Engineering

**RESEARCH INTERESTS:**

Renewable energy, Solar Thermal Systems, Heat Exchanger Design, Polymer composites, Corrosion Science, Process Modelling and Simulation

**Recognized Research guide for:** NNA (as on Contractual appointment) Guided Students: Mentored: 06, Ph.D.: 0, Masters: 0, PDF if any: NA, National: 0, International: 13, **Patents Published:** 0, **H-Index:** 4, **Citations:** Scopus 43, **Patents Granted:**0

**NATIONAL AND INTERNATIONAL AWARDS:** Best Paper Award 2019



**PROF. VIVEK R. GAVAL**

*B.E (Production), M.E Plastic Engg., Ph.D. (Tech)*

**Professor in General Engineering**

**SUBJECTS TAUGHT:**

Elements of Mechanical Engineering, Equipment Design and Drawing, Engineering Graphics, Design and fabrication of plastic molds, Finite Element Analysis.

**RESEARCH INTERESTS:**

Particulate filled polymer composites, conversion of Metal parts into plastic parts, Tribology, Improvement in existing injection moulding simulation software's focusing on war page and weld line strength prediction, Solar Energy

**Recognized Research guide for:** Ph.D. (Tech) in Mechanical Engineering and Plastic Engineering. Guided Students: Ph.D. (Mechanical) 09 Completed, Ongoing 12, Masters: completed 46; ongoing 02, Publications: International: 46, Patents Granted : 2 ,**H-Index:** 9, Citations 282

**PROF. SURESH P. DESHMUKH**

*D.M.E. (Mechanical), B.E. (Production), M.E Production, Ph.D. (Tech)*

**Professor of Mechanical Engineering And Workshop Superintendent**

**SUBJECTS TAUGHT:**

Equipment Design and Drawing-I, Engineering Graphics, CAD/CAM/CAE.

**RESEARCH INTERESTS:**

Polymeric Composites, Engineering Materials, Plastic Processing, Design of Molds, Analysis of Plastic component using CAD, CAE tools. Solar Hybrid Energy, Refrigeration Air Conditioning, Heat Transfer through microchannel.

**Recognized Research guide for:** PPh.D. (Tech.) in Mechanical Engineering, Plastic Engineering, Electrical Engineering, Electronic Engineering Guided Students: Ph.D.: 12, Masters: 30, PDE, If any: NA, National: 07, International: 81, **Patents Published:** NA, **H-Index:** 19, **Citations:**870

**NATIONAL AND INTERNATIONAL AWARDS:**

Wipro Earthian Award 2012 and 2013



**PROF. DILIP D. SARODE**

*B.E (Civil), M.E (Structural), Ph.D. (Tech) (IIT Bombay), PGD Const Mgt (NICMAR), DCST (Mumbai)*

**Professor of Civil Engineering**

**SUBJECTS TAUGHT:**

Concrete Technology, Construction Chemicals, Risk Analysis and its mitigation, Recycling of wastes, Water and wastewater treatment, Recycling of agricultural and industrial waste.

**RESEARCH INTERESTS:**

Concrete Technology Construction Chemicals - Risk Analysis and its mitigation. Recycling of wastes, Recycling of agricultural waste and improving soil fertility.

**Recognised guide for:** M.E. (Plastic), Ph. D. (Tech) in Civil Engineering and Plastic Engineering, Guided students: Ph.D.: 04, Ongoing: 08, Masters: 13, Ongoing: 7, Research Publications: National: 15, International: 16, **H-Index:** 7, i10 Index: 3, **Citations:** 444, Patent Information: National: (granted) 04, International: 01 (Applied)

**DR. VIKRAMSINHA S. KORPALE**

*B.E. (Mechanical) (2011), M.E. Plastic Engg. (Mumbai 2013), Ph.D. (Tech) (Mechanical Engg.) (ICT Mumbai 2021)*

**Assistant Professor**



**SUBJECTS TAUGHT:**

Engineering Graphics I and II, Mold Designing Laboratory, CAD/CAM/CAE and Design of Molds, Plastic Product Design and Testing of Plastics, Structural Mechanics Laboratory, Equipment Design and Drawing-I

**RESEARCH INTERESTS:**

Thermal design of equipment, Plastic products design and analysis, computational fluid dynamics, Equipment design and analysis, powder-flow equipment designs, **Recognized Research guide for:** PhD in Mechanical Engineering, Masters and PhD in Plastic Engineering

**Guided Students:** Yes, **Ph.D.:** Nil, **Masters:** Ongoing 01, **PDF, If any:** NA, **National:** Nil, **International:** 09, **H-Index:** 05, **Citations:**158



**DR. SACHIN G. SOLANKI**

*B.Tech. (2010) M.Tech. (2014) PhD (2021) in Mechanical Engineering*

**Assistant Professor in Mechanical Engineering**

**SUBJECTS TAUGHT:**

Research Methodology, Strength of Material, Production Process, Metal Cutting, Machining Process

**RESEARCH INTERESTS:**

Material Engineering, Composite material, Tribology, Plasma coating, Bioimplant Material

**Recognized Research guide for:** Masters in Plastic Engineering, PhD in Mechanical Engineering

**Guided Students: Masters:** Ongoing 01, **PDF, If any:** nil, **National:** nil, **International:** 20, **Patents Published:** nil, **H-Index:** 06, **Citations:**64, **Patents Granted:**01

**NATIONAL AND INTERNATIONAL AWARDS:**

Gold Medal (First merit in university: Master Engineering)- 2014.  
Emerging young teacher award (College Level)- 2018.







# Department of MATHEMATICS





**DR. AJIT KUMAR**

B.Sc., M.Sc., Ph.D.

**Professor and Head, Department  
of Mathematics,  
Associate Dean, HRD**



## 2.10 DEPARTMENT OF MATHEMATICS

### VISION:

The Department of Mathematics, Institute of Chemical Technology, Mumbai, aims to be an internationally leading mathematics department that will offer innovative educational and research programmes in mathematical sciences and their applications in science and technology

### MISSION:

In pursuit of its vision, the department wish to

- (i) offer courses and programs that will ensure that the student get practical knowledge in mathematics which will be relevant to the society
- (ii) provide a modern educational environment for instruction and research
- (iii) create an environment for learner to engage in solving real-world problems
- (iv) contribute to the understanding of complex mathematical structures and their applications.

### RESEARCH AREAS:

The Department of Mathematics has research expertise mainly in the areas of Computational Fluid Dynamics and Mathematical Modeling, Momentum, Heat and Mass Transfer in Newtonian Non-Newtonian Fluids, Singular Perturbation Theory, Optimization Techniques, Statistical Analysis, Data Analysis, Mathematical Biology, Species Distribution Modeling, Applied Functional Analysis, Differential Equations, and Mathematical Pedagogy.

### ABOUT THE DEPARTMENT:

The Department of Mathematics, ICT Mumbai was established in the year 1944. Since its inception it has catered to all the courses related to mathematics, statistics and computer programming of UG and PG programmes in ICT. The department offers a 2-year M.Sc. programme in “Engineering Mathematics”. This programme was started in the academic year 2012-2013 under the UGC INNOVATIVE SCHEMES and is very unique in its nature. The department also has Ph.D. programme in Mathematics covering diverse areas of research covering Functional Analysis, Optimization, Machine Learning, Deep Learning, Fractional Differential Equations etc. Including Mathematics Education. The Department also offers a Multi-Disciplinary Minor (MDM) in Machine Learning and Artificial Intelligence (ML-AI) for the undergraduate students of Chemical Engineering and Technology under the aegis of new education policy NEP-2020.

The department has modern and high-level computational facilities, consisting of 50 All-In-One Computers, One workstation and a High-Performance Computing (HPC) cluster. All computers are installed with software such as MATLAB, Mathematica, SPSS, R Python and SageMath etc. The department has strong research collaborations and MOUs with other renowned academic institutions and industries. Students are also provided with industrial internship and placements opportunity. The faculty members of the department are members of the Board of Study of several institutes and contribute significantly to curriculum design. The department regularly arranges workshops, conferences and seminars for students and teachers from other colleges. Faculties are also engaged in various training programmes in mathematics and statistics across the country.





**Dr. AJIT KUMAR**

*B. Sc. Hon. (Patna University, 1995), M. Sc. (Mumbai University, 1997), Ph. D. (Mumbai University, 2002)*

**Associate Dean (Human Resource Development),  
Professor and Head, Department of Mathematics**

**SUBJECTS TAUGHT:**

Optimization Techniques, Research Methodology, Data Analysis with Python, Computational Mathematics Lab I & II

**RESEARCH INTERESTS:**

Optimization Techniques, Data Analytics, Computer Aided Tools, Mathematical Pedagogy

**Recognized Research guide for:** Mathematics

**Guided Students:** 36, **Ph.D.:** 3, **Masters:** 33 (Masters projects), **PDF, If any:** 0, **National:** 2, **International:** 14, **Books:** 5 (Printed), 2 (Online)

**Dr. AMIYA R. BHOWMICK**

*B.Sc. (University of Calcutta, 2006), M.Sc. (IIT Bombay, 2008)  
Ph.D. (University of Calcutta, 2015)*

**Coordinator, Information Processing Centre (IPC)  
Assistant Professor of Mathematics**

**SUBJECTS TAUGHT:**

UG: Applied Mathematics - I, II; PG: Statistical Inference, Statistical Computing, Machine Learning, Computational Mathematics Lab

**RESEARCH INTERESTS:**

Machine Learning and Data Science Research in Ecology and Environmental Applications; Species Distribution Modelling

**Recognized Research guide for:** Ph.D. (Sci.) in Mathematics, **Guided Students:** 35, **Ph.D.:** 01 (Completed): 03 (Ongoing), **Masters:** 31, **PDF, If any:** No, **National:** 2, **International:** 38, **H-Index:** 15, **i10-Index:** 21  
**Citations:** 651, **Online Books:** 2

**NATIONAL AND INTERNATIONAL AWARDS:**

International Travel Grant (ICTP, Italy)





**Dr. AKSHAY S. RANE**

*B.Sc. (University of Mumbai, 2005), M.Sc. (University of Mumbai, 2007),  
Ph.D. (IIT Bombay, 2013)*

**UGC Assistant Professor**

**SUBJECTS TAUGHT:**

Real and complex analysis, Functional Analysis, Applied Linear Algebra, Analysis I, Analysis II, Complex Analysis, Differential Equations, PDE, Algebra, Applied Math I, Applied Math II for Btech and BChem

**RESEARCH INTERESTS:**

Numerical Functional Analysis, Functional Analysis and Operator Theory, **Recognized Research guide for:** Ph.D., **Guided Students:** 1(ongoing), **Ph.D.:** 2(ongoing), **Masters:** 13, **PDF, If any:** 0, **National:** 0, **International:** 13, **H-Index:** 4, **Citations:**39,

**Dr. Vikram Aithal**

*Education: B. Sc (University of Mumbai, 2001),  
M. Sc. (University of Mumbai, 2003), Ph. D. (IIT Bombay, 2010).*

**Assistant Professor**

**SUBJECTS TAUGHT:**

Applied Mathematics I and II, Real Analysis, Complex Analysis, Differential Equations, Combinatorics, Linear Algebra, Algebra, Probability, Geometry of Curves and Surfaces, Discrete Mathematics.

**RESEARCH INTERESTS:**

Differential Geometry, Dynamics, Topology.

**Recognized Research guide for:** NA

**Guided Students:** Masters: 9, PDF, If any: 0, **National:** 1,

**International:** 3, **H-Index:** 2, **Citations:**2, **Books Published :** 1



**Dr. GUNVANT A BIRAJDAR**

*MSc. (Mathematics), Ph.D. (Mathematics)*

**Assistant Professor**

**SUBJECTS TAUGHT:**

Differential Equations, Numerical Analysis, Matlab-software Lab, Applied Mathematics-I

**RESEARCH INTERESTS:**

Fractional Differential Equations, Numerical Analysis, Mathematical Modeling **Recognized Research guide for:** Ph.D., **Guided Students:** Masters: 20, PDF, If any: NA, **National:** 1, **International:** 19, **Patents Published:** 20, **H-Index:** 8, **Citations:**301, **Patents Granted:**0

**NATIONAL AND INTERNATIONAL AWARDS:**

INSA Travel Grant Award-2024, Henri Lebesgue Financial Assistance, France -2018, Financial Assistance, by Max-Planck Institute for Mathematical Sciences-2018, Young Scientist 2011, Best Paper Award-2014, UGC-Research Fellowship in Sciences for Meritorious Students (RFSMS) (2009-2013),









# Department of PHYSICS





**PROF. R. R. DESHMUKH**

*B.Sc., M.Sc., Ph.D.*

Senior Professor of Physics

**Head of the Department**



## 2.11 DEPARTMENT OF PHYSICS

### VISION :

The Department of Physics seeks to be a knowledge centre for an exciting, diverse, collaborative, supportive learning environment that advances the knowledge of Physics and Material Science. We aim to inculcate a fundamental understanding of the subject and utilize this knowledge to benefit the environment and society.

### MISSION :

#### Education

- Create a vibrant and conducive educational environment and prepare students with a comprehensive viewpoint.
- To offer academic programs that help students master the underlying physics of material behaviour.
- Develop and disseminate the understanding of structure-property-processing-performance relationships for materials through instruction.

#### Research

- Performing world-class, cutting-edge research and striving for excellence in the relevant areas of material science and energy engineering.
- Promote interdisciplinary collaborative research with Academic, Research, and Industry Partners.
- Develop trained human resources to further the cause of research and development in the areas of energy, the environment, and societal welfare.

#### Social Responsibility

- To promote active and vigorous leadership by our people in shaping the scientific and technological discourse around social, political, economic, and environmental issues facing the country and the world.

### ABOUT THE DEPARTMENT:

The Department of Physics at the ICT has the distinction of being one of the earliest Departments in the Institute. It started as the Optics Section in 1935, which was subsequently changed to the Physics Section in the Second Five-Year Plan and then to the Department of Physics. The department of physics offers core courses and electives for the first and second year undergraduate and postgraduate engineering and technology programs (BChem, BTech, MTech, MSc). Since 2014, the department has been successfully running a Masters' program in physics (MSc), with special emphasis on material science.

We are now a DST-FIST supported department. Using the funds sanctioned by the Department of Science and Technology, the postgraduate and research program will be further strengthened by the improvement of research and infrastructural facilities within the department.

The department presently consists of seven core faculty members. Several distinguished people from industry and other reputed institutes and colleges are associated with the department as visiting faculty members, giving quality input to the education and training imparted to the students.

The faculty members are actively engaged in both teaching as well as research activities, and have active national and international collaborations. Faculty members have research projects from DST, BRNS, and UGC (see Ongoing Projects).

Currently, thrust areas of research in the department broadly include:

- Polymer nanocomposites
- Plasma processing of materials
- Nanomaterials (CNTs, Graphene)
- Energy storage and Electrochemical Sensors
- Supercapacitors and fuel cells
- Statistical Mechanics and Thermodynamics of Complex Fluids

- Magnetism and Transport in Quantum Materials
- Computational Soft matter research
- Solar thermal applications

The department's infrastructure includes faculty offices, staff offices, undergraduate physics labs, postgraduate physics labs, research laboratories, dedicated classrooms and seminar rooms. The department has upgraded and renovated its infrastructure and research facilities over the years using grants received from TEQIP program (Phase I, II, III), the Center of Advanced Studies (CAS) by UGC, and institutional funds. Also, faculty members have been able to visit National and International Academic Centers using these grants. The department has an endowment trust under which eminent scientists in areas of applied physics are invited to deliver a series of lectures.

As per NEP-2020, the Department of Physics has started a minor degree in materials science for undergraduate students of ICT, starting in 2023. Open electives in physics and materials science are also offered as part of the NEP-2020 for 3rd, 4th, and 5th semester UG students.

The department is one of the participating Departments of the Centre of Advanced Studies in Physio-Chemical Aspects in Textiles, Fibres, and Dyes. The department has made significant contributions in the field of materials science (study of polymer/polymer composites and nano-composites and their various properties), solar thermal applications, nano-aided drug delivery, energy storage, and conversion etc. The research in Colour assessment of dyed textiles and colour perception is also carried out in this department. Currently, 20 doctoral students are working on various topics. Faculty members have actively participated, attended national and international seminars/workshops, and presented their research. A good number of papers have been published in peer-reviewed journals. Faculty members have research projects from industry and various government funding agencies.

#### **THRUST AREAS OF RESEARCH:**

The faculty of the department undertakes research in many aspects of material sciences:

- Energy storage and conversion (Na-ion, Zinc-ion batteries, supercapacitors etc.)
- Nano-drug delivery.
- Polymer dispersed Liquid crystals, Plasma processing of Materials.
- Statistical Mechanics applied to Chemical Engineering Thermodynamics.
- Synthesis and functionalization of CNTs, Energy storage, Super-capacitors.
- Magnetism, transport properties of quantum magnets and Low-temperature Physics.
- Computational Physics, Phase Transitions in Polymers and Gels.
- Solar Thermal applications, Solar Energy Harvesting.

#### **NAME OF THE PROGRAMMES OFFERED:**

- M.Sc. Physics (Material Science)
- Multi-Disciplinary Minor (MDM) degree in Materials Science
- PhD. in Physics in above mentioned thrust areas

#### **Admission Criteria for the programmes offered**

**M.Sc. Physics:** Eligibility: B.Sc. in Physics with minimum 55% and selection based on Entrance exam, B.Tech. Chemical engineering/Electrical engineering are also eligible to apply.

**MDM in Materials Science:** 1st year B.Tech./B. Chem. Engg. are eligible.

**Ph.D. Physics:** Eligibility: M.Sc. in Physics with a minimum 55%, and selection is based on the ICT entrance exam and/or other national-level entrance exams.

#### **Courses handled:**

First-year B. Chem. Engg. and B. Tech. – Applied Physics, Minor degree in materials science (MDM) (from 3rd semester to 8th semester, one course each semester). Open electives for UG students (3rd, 4th, and 5th semester).

Courses for M. Tech. and M.Sc. (Textile Chemistry)



**PROF. R. R. DESHMUKH**

*B.Sc. (Pune, 1991), M.Sc. (N. M. U. Jalgaon, 1994), B.Ed. (Mumbai, 1995)  
Ph.D. (Mumbai, 2002)*

**Professor of Physics**

**SUBJECTS TAUGHT:**

Solid State Physics, Electricity and Magnetism, Analytical Techniques (PG).

**RESEARCH INTERESTS:**

Plasma Technology, Polymer Physics, Functionalisation of nanoparticles, Molecular tailoring of surfaces using plasma for biomedical applications, textile physics, Electro-optical properties of Polymer Dispersed Liquid Crystals, Polymer nano-composite materials, **Recognized Research Guide for Ph.D. (Sci) in Physics**, Chemistry Guided students: Ph.D.: Guided : 10, Ongoing : 05, Post Doc Fellow: 1, Masters: 02, **Total Research Publications:** National: 05, International: 150, Book Chapter-10, **Citations:** 7300, H index: 48, i10 index: 115, Highest Impact Factor: 13, Cumulative Impact Factor: 3.66

**Dr. ASHWIN MOHAN**

*B.Sc. (Mumbai, 2007), M.Sc. (Mumbai, 2009), Ph.D. (Germany, 2014)*

**Associate Dean, IQA, Assistant Professor of Physics**

**SUBJECTS TAUGHT:**

Applied Physics (UG), Solid State Physics (UG), Colour Physics (PG), Chemical Physics Laboratory (PG)

**RESEARCH INTERESTS:**

Transition Metal Oxides: Crystal growth, Magnetism, Structure, Colour Science: Thermo-chromic materials, Recognized Research guide for Phd (Sci.) in Physics, Guided Students: 10, Ph.D.: 1 (ongoing), Masters: 10, **Total Research Publications:** National: 1, International: 16, **H-Index:** 7, **Citations:** 111

**NATIONAL AND INTERNATIONAL AWARDS:**

Marie Curie Fellowship 2010, CSIR-NET 2010



**Dr. PARESH H. SALAME**

*M.Sc. (Condensed Matter Physics, 2005), Ph.D. (IIT Bombay, 2014)*

**Assistant Professor in Physics**

**SUBJECTS TAUGHT:**

Introduction to Ceramics (PG), Polymer Physics (PG), FY BTech/ BChem Engg. Lab (UG), General Physics Lab (PG).

**RESEARCH INTERESTS:**

Rechargeable Secondary Batteries (Na-ion batteries), Supercapacitors, Colossal Dielectric Materials, Multiferroic Materials, Electro-ceramics, Polymer Nano-composites Recognized Research Guide for Ph.D. (Sci) in Physics Guided students: Ph.D. ongoing: 01, Masters: 10 completed, **Total Research Publications:** International: 22, **H-Index:** 11, **Citations:** 392 Edited book: 01, Book chapters: 07, Publications: 28

**NATIONAL AND INTERNATIONAL AWARDS:**

CSIR-NET (LS) 2006

GATE: 2005, 2006

JEST-2006





**Dr. MOHAN NARAYAN**

*B.Sc.(Mumbai, 1988), M.Sc.(Mumbai, 1990), Ph.D.(Madras, 1999)*

**Nodal Officer, Vice President Tech. Asso. (TA), Professor of Physics**

**SUBJECTS TAUGHT:**

PG–Quantum Mechanics, Classical Mechanics, Molecular Quantum Mechanics and UG Lab

**RESEARCH INTERESTS:**

Phenomenological Consequences of Neutrino masses and Oscillations. Effect on Solar, Atmospheric and Long Baseline experiments. Connecting neutrino parameters to Gravity via effective Planck operators. Possible signals of CPT violations in neutrino Physics; Development of advanced equations of states and applications to thermo physical phenomenon

**Recognized Research Guide for Ph.D. (Sci.) in Physics, Guided students:** Ph.D.: 02, Ongoing: 01, **Total Research Publications:** National: 03, International: 23, **H-Index:** 13; **Citations:** 593, Impact factor-range: 1.0 to 6.11

**Dr. NEETU JHA**

*M.Sc. (BHU, 2004), Ph.D. (IIT-Madras, 2009)*

**UGC-FRP Assistant Professor**



**SUBJECTS TAUGHT:**

Analytical Techniques, Physical Methods of Analysis, Nanomaterials - Science and Technology, Introduction to Nanophysics and Applications: Applied Physics Lab.

**RESEARCH INTERESTS:**

Carbon-Nanomaterials, Supercapacitors, Fuel Cell Electrocatalysts, Capacitive Desalination, Photothermal materials, Zinc-Ion Batteries.

Recognized Research Guide for Ph.D. (Sci.) and Ph.D. (Tech.): Physics and Green Technology, Guided students: Ph.D. : 11, Masters: 25, **TOTAL RESEARCH PUBLICATIONS:** National: 18 International: 64, **H-Index:** 31; **Citations:** 2966, Patents (granted in last 5 years): 01, Book Chapters: 3

**AWARDS:**

1. Young Associate, Maharashtra Academy of Sciences, 2024.
2. ASEAN-DST Women Scientist Conclave, 24-26th April Singapore, 2024.
3. Indian National Young Academy of Science (INYNAS Member), INSA, 2023-2025
4. Bronze Medal, Society for Materials Chemistry, 2023.
5. Climate Hackathon Challenge Award, Energy Swaraj Foundation, 2022.
6. C.B. Murarka Charitable Trust for Best Assistant Professor in ICT, 2020.
7. Mokashi Innovation Award, ICT Mumbai, 2017
8. SERB International Travel Grant, Dec 2016
9. BRNS, Young Scientist Research Award, 2014
10. UGC Faculty Recharge Program, 2014
11. Bill and Melinda Gates Foundation, 2014
12. DST INSPIRE Faculty Award, February 2013
13. DST Fast Track for Young Scientist, Sept 2013

**Dr. ARCHANA S. KALEKAR**  
*M.Sc. Ph.D. (Physics)*  
Assistant Professor in Physics



**SUBJECTS TAUGHT:**

Material Science, Material Synthesis, and Applied Physics.

**RESEARCH INTERESTS:**

Photovoltaics, Quantum Dot Sensitized Solar Cells (QDSSC), Photocatalytic Hydrogen generation, Photo Electrochemical Cells, Energy Storage, Supercapacitors, Chemical synthesis of semiconductor nanostructures.

**Recognized Research guide for:** Ph.D. (Sci) in Physics Guided students: Ph.D.: 01 (Completed), 4 (Ongoing), Masters: 05, **Total Research Publications:** National: 00, International: 43, **H-Index:** 22 **Citations:** 1480, Edited book: 01, Book chapters: 02 Total publications 43

**NATIONAL AND INTERNATIONAL AWARDS**

1. Best Research Presentation Award - 7th India-Singapore Symposium on Condensed Matter Physics (2014)
2. University Grants Commission Senior Research Fellow (UGC-SRF) (2013)
3. University Grants Commission Junior Research Fellow (UGC-JRF) (2011)

**Dr. SHRADDHA SHIRBHATE**  
*Ph.D. (Material Science)*  
Assistant Professor



**SUBJECTS TAUGHT:**

Applied Physics, UG Lab

**RESEARCH INTERESTS:**

SSOFC Technology, Solid Electrolytes, Polymer - double Perovskite composites for PEMFC, Defect chemistry in Solid, Double Perovskite Materials, Piezoelectric Materials

**Recognized Research guide for:** Ph.D. (Sci.) in Physics, Guided Students: Ph.D.: 1 (ongoing), Masters: 2, International Publications: 39, **H-Index:** 8, **Citations:** 276, **Patents Granted:** 1 (Indian) (202121045468)

**NATIONAL AND INTERNATIONAL AWARDS:**

1. Young Associate of the Maharashtra Academy of Sciences (2023)
2. Women Scientist A, Department of Science and Technology, New Delhi
3. Best Ph.D thesis presentation Award, National Academy of Sciences India (NASI), Nagpur
4. Best Paper Presentation Award in National Seminar on Ferroelectrics and Dielectrics (NSFD-2016) MANIT Bhopal (2016)



The image shows a building with a traditional tiled roof, partially obscured by lush green trees. A prominent red sign with white text is mounted on the front of the building. The sign reads "INSTITUTE OF CHEMICAL TECHNOLOGY" in large, bold, capital letters. Below this, in smaller capital letters, it says "( DEEMED UNIVERSITY UNDER SECTION - 3 OF UGC ACT - 1956 )". The building has large glass windows, and a circular logo is visible on one of them. In the foreground, there is a well-maintained garden with various green plants and pink flowers. A person is standing near the entrance of the building, and another person is partially visible behind a bush. A large tree trunk is on the left side of the frame.

# INSTITUTE OF CHEMICAL TECHNOLOGY

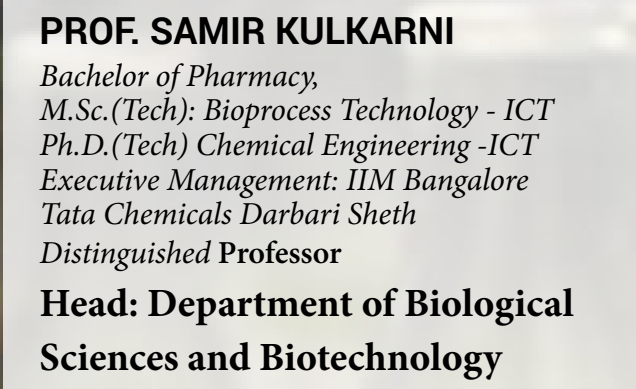
( DEEMED UNIVERSITY UNDER SECTION - 3 OF UGC ACT - 1956 )





# Department of **BIOLOGICAL SCIENCES AND BIOTECHNOLOGY**





*Bachelor of Pharmacy,  
M.Sc.(Tech): Bioprocess Technology - ICT  
Ph.D.(Tech) Chemical Engineering -ICT  
Executive Management: IIM Bangalore  
Tata Chemicals Darbari Sheth  
Distinguished Professor*

**Head: Department of Biological Sciences and Biotechnology**

## 2.12 DEPARTMENT OF BIOLOGICAL SCIENCES AND BIOTECHNOLOGY

### VISION:

We aspire to be an internationally leading Centre for education to create industry ready manpower, generating new economic growth by providing solution to national and international agenda, and through world class translational research in the field of biosciences and industrial biotechnology.

### MISSION:

To provide outcome based education, and research infrastructure to become global leader in creating industry ready manpower, and sustainable technologies based on biosciences and industrial technology for development, in joint efforts with industries, academia and business at national and international level.

The Department for Biological Science and Biotechnology (BSBT) is a unique place that integrates basic and translational science capabilities for bioprocess development and scale up. Funded by the Department of Biotechnology, Ministry of Science and Technology, India, the Department originated as a DBT – ICT Centre for Energy Biosciences and formally inaugurated in May 2009. Established at a total cumulative cost equivalent to more than USD 15 million, the Centre is a part of the Institute of Chemical Technology (ICT) at Matunga, Mumbai, which is a deemed to be University under Section 3 of UGC Act 1956. The Centre was set up as a result of vision and efforts of Dr. M. K. Bhan, Secretary DBT and Dr. RenuSwarup, Advisor, DBT, and functions under the leadership of Dr. G. D. Yadav, Vice Chancellor, ICT. The projects and technical programs at the Centre are coordinated by Prof. Arvind Lali. The Centre is focused primarily at developing biotechnologies for deriving biofuels and other products from renewable resources for reducing India's rising dependence on petroleum and cut down greenhouse gas emissions. The Centre believes in building multidisciplinary capacity for development of integrated technology packages.

The Centre successfully completed its first phase of five years in 2013 and was awarded an extension of five years by the Department of Biotechnology with the extended mandate of upscaling and upgrading the platform technologies developed during the first phase. The 10 Ton/day biomass pilot plant set up by Industry has successfully validated all segments of the novel DBT-ICT Lignocellulosic Ethanol Technology in a continuous non-stop flow mode from biomass size reduction to ethanol fermentation. The technology is at present being taken to commercial scales by different oil marketing companies. The Centre has developed a highly competent working groups in the area of Synthetic biology, Fermentation technology, Green/Chemical catalysis, Algal technologies, Enzyme engineering and technology, Separation technologies. These groups have developed a range of globally competitive cutting edge technologies that are at present being translated to demonstration and commercial scale plants.

With an outstanding achievement in the first phase, the second phase progressed to develop platform technologies for conversion of all domestic, industrial and agricultural wastes to renewable products (fuel, food, feed, material, energy and chemicals) using smart combinations of chemical and biological technologies. During the second phase, the Centre has developed an integrated biorefinery concept through multi-product processing using chemical or biological routes that are being taken up for technology transfer or scaleup. The Centre has expanded its state-of-art facility and procured several high-end equipment's and instruments that not only leads to high level contemporary research but also an accelerated development of several more scalable technologies based on the knowledge base generated. The Centre having completed its second phase in 2018, aims to continue the work in an intensive mission mode for innovative





research and translation of developed technologies.

The Centre for Energy Biosciences has attracted a large number of industrial and academic collaborations as a result of its reputation of conducting cutting edge research and delivering viable and scalable solutions to the biotech industry. The Centre is also part of several national and international academic collaborations (Indo-UK, Indo-Australia, Indo-German, Indo-US and several national projects) with grants amounting to more than 10 million USD under various R&D schemes floated by Ministry of Science and Technology, Government of India. The technologies developed at the DBT-ICT Centre have been secured through patent filings across the world. A number of technologies have been already licensed to industries for pilot and commercial scale plants.

The Department of Biological Sciences and Biotechnology (BSBT) is the most recent department established in the Institute of Chemical Technology, Mumbai. The BSBT department was established to formalize and stream-line the biotechnology-based education from ICT as a natural evolution of the pre-existing, DBT-ICT Center for energy Biosciences. The DBT-ICT Center for energy biosciences was established in 2008 at by the Department of Biotechnology (DBT) GoI, with primary focus on exploring the biological mechanisms to harness alternative energy options. While maintaining the core research objectives of the DBT-ICT Center, the BSBT department was conceived to leverage on the extensive expertise developed with ICT in this domain, which was whole-heartedly supported by the Department of Biotechnology. State-of-the-art facility and infrastructure have been created with expertise in several associated domains such as

- Biomass to liquid fuel technologies
- Waste-to-Value technologies
- Biorefinery Development
- Algal biotechnology and metabolic engineering
- Fermentation, Separation and Purification of Biomolecules
- Biomass Pre-treatment protocols
- Enzyme Technology
- Biotransformation
- Synthetic biology
- Biogas
- Biopharmaceuticals and Biodiagnostics
- Analytical Assessment of Biomolecules





**PROF. SAMIR KULKARNI**

*Bachelor of Pharmacy, M.Sc. (Tech): Bioprocess Technology - ICT, Ph.D. (Tech) Chemical Engineering, Executive Management: IIM Bangalore*

**Tata Chemicals Darbari Sheth Distinguished Professor**  
**Head: Department of Biological Sciences and Biotechnology**

**SUBJECTS TAUGHT:**

Bioprocessing, Biopharmaceutical Sciences and Technology

**RESEARCH INTERESTS:**

Biologics, Biopharmaceuticals, Biosimilars, Antibody Analogs, Biofuels, Bioprocessing

**Recognized Research guide for:** Bioprocess Technology, Biotechnology

**Guided Students:** 7, **Ph.D.:** 4, **Masters:** 3, **PDF, If any:** 3 (Scientists), **National:** 3, **International:** 1, **Patents Published:** 20, **H-Index:** 0, **Citations:** More than two decades of experience in the Biopharma Industry that has resulted into development of several Biosimilar Products, such as Monoclonal Antibodies, Hematopoietic Hormones, Growth Factors, Peptides etc. for clinical studies and launch in Domestic, **Patents Granted:** 2

**Dr. RATNESH JAIN**

*M.Pharm, Ph.D (Tech) Pharmaceutics*

**Associate Dean (Infrastructure and Campus Development),**  
**Co-ordinator M.Tech. Bioprocess Technology**

**Associate Professor**



**SUBJECTS TAUGHT:**

Biopharmaceutical Engineering, Introduction to Biopharmaceutical Manufacturing, Bioprocess technology, Research Methodology

**RESEARCH INTERESTS:**

Characterization of Proteins, biologics and biosimilars, Cell Culture engineering, Continuous process for polymeric/metal nanoparticles synthesis; Synthesis and evaluation of biomaterials (Biodegradable polymers, proteins, and nucleic acids) for biomedical and industrial applications; Material-Protein Interactions.

**Recognized Research guide for:** Ph.D. (Tech./Sci.) and Masters in Bioprocess Technology, Pharmaceutics, **Guided Students:** Alumni - 13 PhD, 32 **Masters:** **Ph.D.:** 14, **Masters:** 5, **PDF, If any:** NA, **National:** 1, **International:** 118, **Patents Published:** 21, **H-Index:** 28, **Citations:** 2863, **Patents Granted:** 11

**NATIONAL AND INTERNATIONAL AWARDS:**

National Awards 14, International Awards 5



**DR. ANIKETKUMAR K. GADE**

*B.Sc. (Microbiology), M.Sc. (Biotechnology),  
P.G. Diploma in Bioinformatics, Ph.D. Biotechnology*

**Associate Professor**

**SUBJECTS TAUGHT:**

Introduction to Biological Sciences (Lab Course and Theory), Microbial Technology, Pharmaceutical Biotechnology

**RESEARCH INTERESTS:**

Synthesis of metal nanoparticles using biological system, Functionalization of nanoparticles, Nano-antimicrobials, Nano-nutrients, Nano-catalyst

**Recognized Research guide for:** Biotechnology (Science)

Guided Students: Completed and registered, Ph.D.: Completed-02, Registered - 04, Masters: Completed- 32, PDF, If any: Nil, National: 08, International: 92, **Patents Published:** 02, **H-Index:** 48, **Citations:**19460, **Patents Granted:**02

**NATIONAL AND INTERNATIONAL AWARDS:**

International – 05, National- 03

**Dr. GUNJAN PRAKASH**

*M.Sc., Ph.D*

**Assistant Professor and Warden, Hostel No. 2**

**SUBJECTS TAUGHT:**

Fermentation and Cell Culture, Fundamentals of Food biotechnology, Genetics, and Cell Culture Technology, Microbiology, Pharmaceutical Biotechnology

**RESEARCH INTERESTS:**

Algal Biotechnology, Diatom Biotechnology, Microbial Fermentation, Molecular and synthetic biology of microalgae for Bio-products (Synthetic Meat, Algal Protein, Pigments, Prebiotics, Volatile molecules, polymer); Nuclear and Chloroplast Engineering, Plant Biotechnology,

**Recognized Research guide for:** Ph.D. (Sci.) Biotechnology, Ph.D. (Tech.) Biotechnology, Masters in Bioprocess Technology, Masters in Food Biotechnology, Guided Students: Total (Ph. D. & Master) - 25, Ph.D.; Ongoing: 7, Masters: Completed: 16, Ongoing:6; PDF, If any: 2, National: 2, International: 33, **Patents Published:** Filed-2, **H-Index:** 18, **Citations:** 1000; **Patents Granted:** nil

**NATIONAL AND INTERNATIONAL AWARDS:**

International - 4, National - 5







**Dr. HITESH PAWAR**

*M.Sc. (Organic Chemistry), Ph.D. (Science) Chemistry*

**Assistant Professor and Warden, Hostel No. 1**

**SUBJECTS TAUGHT:**

Applied chemistry, Organic chemistry, Pharmaceutical Organic Chemistry, Analytical techniques in bioprocessing, Adsorptive chromatographic and membrane separation, Stereochemistry of organic compound

**RESEARCH INTERESTS:**

Conversion of bio-based sugars to value added chemicals, Photocatalytic hydrogen production, Novel homogeneous, heterogeneous and transition metal catalysis, Synthesis of ionic liquids, deep eutectic solvents, Study of reaction kinetics and reaction mechanism, Designing and development of industrial catalyst, Process intensification and integration, Process development, characterization and scale-up, Chromatographic separation and purification of small molecules, Computational chemistry and molecular modeling Effluent treatment.

Recognized Research guide for M Tech. Bioprocess Technology, Ph.D. (Chemistry) (Tech.) and M Tech. bioprocess Technology, Ph.D. (Chemistry), Guided students: Ph. D guided 2, Ongoing 6, Masters guided 4, Ongoing 4, Total Research Publications: 30+

International: 25, Patents: 10

**NATIONAL AND INTERNATIONAL AWARDS:**

1. Young Associate Maharashtra Academy of Science-2023 (MASc-YA)
2. Member Indian National Young Academy of Science-2024 (INSA-INYAS)

**Dr. ANANDA JADHAV**

*Ph.D. Tech. Chemical Engineering*

**Assistant Professor**

**SUBJECTS TAUGHT:**

Introduction to Biological Sciences, Pharmaceutical Biotechnology, Biological Science Laboratory, Bioprocess Engineering Laboratory

**RESEARCH INTERESTS:**

Multi-phase system, CFD, Modelling, Biochemicals, Waste Management, Life Cycle Assessment, Sonochemistry: Nanomaterials, Process Intensification, Wastewater treatment, Colloid and Interface Science, Soft Matter, **Recognized Research guide for:** Biological Sciences and Biotechnology, Chemical Engineering, Guided Students: 0, Ph.D.: 0, Masters: 0, PDF, If any: 0, National: 3, International: 37, **Patents Published:** 4, **H-Index:** 20, **Citations:** 3668, **Patents Granted:** 0

**NATIONAL AND INTERNATIONAL AWARDS:**

- Young Associate Maharashtra Academy of Science, 2024 (HYA189).
- International Multidisciplinary Research Foundation Best Academician Award 2024.
- Ramanujan Fellow 2023-2028, SERB, India.
- Ambuja cement best PhD thesis award, 2018.
- Finalist for 5th industrial green chemistry world award, 2017.
- Promising young chemical engineer award, 2017.
- Marie Skłodowska-Curie Actions Seal of Excellence, 2016.
- Professor S. B. Chandalia best research student award 2015.
- Department of science and technology inspire PhD fellowship 2013- 2018.
- Secured first rank in M. Tech. examination, IIT Roorkee, 2013.
- Best outgoing student at Institute of Chemical Technology, Mumbai, 2006-2010.
- Best committee member at Institute of Chemical Technology, Mumbai, 2008- 2009



**Dr. SHAMLAN M. S. RESHAMWALA**

*B.Sc. (Microbiology and Biochemistry), M.Sc. (Biochemistry), Ph.D. (Molecular Biology)*

**ICT-NICE Co-ordinator, Assistant Professor**



**SUBJECTS TAUGHT:**

Bioprocess and Biosystems Engineering, Applied Molecular and Synthetic Biology, Intellectual Property Rights, Design and Analysis of Experiments, Research and Publication Ethics, Environmental Sciences, Biochemistry Laboratory

**RESEARCH INTERESTS:**

Molecular and synthetic biology

**Recognized Research guide for:** MTech Bioprocess Technology

**Guided Students:** Ph.D.: Currently co-guiding: 3, Masters: Graduated:

7, guiding: 4, Publications: National: 1, International: 18, **Patents**

**Published:** 2, **H-Index:** 10, **Citations:** 245, **Patents Granted:** 1



**MR. DEEPAK SARDA**

*M.Tech. (BPT), LLB*

**RESEARCH SCIENTIST**

**Intellectual Property management & Technology Commercialization unit)**

**SUBJECTS TAUGHT:**

Intellectual Property Rights

**RESEARCH INTEREST:**

Drafting, reviewing and executing various strategic agreements (MoU, MoA, NDA, MTA etc.), Technology licensing and transfer, Prior art searches for patentability of Inventions, Preparing IP reports, Interviewing the inventors, Patent drafting, filing and Prosecution, Handling of various IP such as Design, Trademark, Copyright, Managing Patent portfolio, Documents for Institutional and administration and financial audits.

**Dr. MANJU SHARMA**

*B.Sc. Biosciences; M.Sc. Microbiology; Ph.D Microbiology*

**Assistant Professor**



**SUBJECTS TAUGHT:**

Pharmaceutical Microbiology, Microbiology Lab (FET), Biological Sciences (Theory and Lab)

**RESEARCH INTERESTS:**

Waste Valorisation for Value added products, Bioenergy

**Recognized Research guide for:** M.Tech BPT, Ph.D Science (Biotechnology)

**Guided Students:** 6, **Ph.D.:** 3, **Masters:** 3, **PDF, If any:** NA,

**National:** 0, **International:** 13, **Patents Published:** NA, **H-Index:**

8, **Citations:** 271, **Patents Granted:** NA

**NATIONAL AND INTERNATIONAL AWARDS: 2**





**Dr. MAYUR R. LADOLE**  
*B.E., M.Tech , Ph.D. (Tech)*  
**Assistant Professor**

#### **SUBJECTS TAUGHT:**

Industrial Biocatalysis, Introduction to Biological Sciences, Bioseparation Processes, Bioinstrumentation Techniques, and Immunology

#### **RESEARCH INTERESTS:**

Biochemical Engineering, Bioprocess Technology, Enzyme Technology, Fermentation Technology, Nanotechnology, Cavitation Technology, Wastewater treatment

**Recognized Research guide for:** Ph.D. (Tech) Bioprocess Technology, Ph.D. (Tech) Biotechnology

Guided Students: M.Sc. (Biotech)-04 (completed), M.Tech (BPT)- 05 (ongoing), Ph.D.: 01 (ongoing), Bachelors: 02 (completed)

Publications: National: 4, International: 18, **Patents Published:** 3,

**H-Index:** 15, i10-Index- 16, **Citations:**1400, **Patents Granted:** 2

#### **NATIONAL AND INTERNATIONAL AWARDS:**

##### **ACADEMIC NATIONAL AWARDS:**

- Best Research Student Award from the UDCT Alumni Association, ICT, Mumbai (2019)
- Prime Minister's Research Fellowship for Doctoral Research, SERB, Gov. of India (2017-2021)
- Senior Research (direct-SRF) Fellowship for Doctoral Research, CSIR Gov. of India (not availed) (2017)
- Outstanding Young Chemical Engineers Award (OYCE) from IChE, Mumbai, India (2016)
- University Rank-II: Master of Technology, North Maharashtra University, Jalgaon, India (2014)
- University Rank-II: Bachelor of Engineering, Shivaji University, Kolhapur, India (2012)

##### **OTHER NATIONAL AWARDS:**

- DS Social Tech Innovation Award by DERBI Foundation, Bangalore (2021)
- Open Innovation Challenge (Business Process Re-engineering) IOCL, Faridabad (2019)
- Aarohan Social Innovation Gold Award organized by Infosys Foundation, Bangalore (2018)
- Carbon Zero Challenge Award, IIT, Madras (2018)
- Best Presenter in Paper Presentation, SCHEMCON, ICT, Mumbai (2018)
- Biotechnology Entrepreneurship Student Teams (BEST) by DBT, India (2018)
- India Innovation Growth Programme (IIGP 2.0), by DST, India (2017)

##### **INTERNATIONAL AWARDS:**

- The Green Business Ideas Competition Award organized by Climate Launchpad, Netherlands (2019)
- Nano-challenge Award organized by PSG Institute of Advanced Studies, Coimbatore, and College of Nanoscale Science and Engineering (CNSE), Albany, USA (2016)







**Dr. CHANDRAKANT RAMNATH HOLKAR**

*Ph.D. (Tech) Chemical engineering*

**Assistant Professor**

**SUBJECTS TAUGHT:**

Membrane Separation, Applied Biotechnology

**RESEARCH INTERESTS:**

Environmental Biotechnology, Textile Wastewater Treatment, Microbial Fuel Cell, Bitumen/BioBitumen, Life Cycle Assessment

**Recognized Research guide for:** M.Tech. (Bioprocess), Ph.D. (Tech) Bioprocess Technology, Ph.D. (Tech) Chemical Engineering

Guided Students: Ph.D.: 01 (In Progress), Masters: 05 (In Progress),  
PDF, If any: NA,

National: 05, International: 20, **Patents Published:** 03, **H-Index:** 13,  
**Citations:**3070, **Patents Granted:**NA

**NATIONAL AND INTERNATIONAL AWARDS: 10**



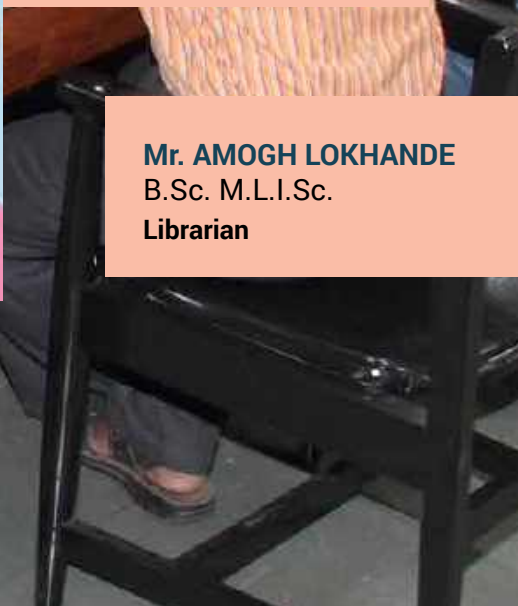


# PROFESSOR M.M. SHARMA LIBRARY





**Mrs. MADHAVI**  
B.Sc., M.L.I.Sc.  
Senior Librarian  
Head of the Library



**Mr. AMOGH LOKHANDE**  
B.Sc. M.L.I.Sc.  
Librarian





## 2.13 PROFESSOR M. M. SHARMA LIBRARY

### INTRODUCTION:

Established in the year 1934, Prof. M M Sharma Library functions as the central library of the institute and can be called one of the best special libraries in the country. It performs a dual role of an Academic Library as well as a Research Library, catering to the information needs of the in-house students and faculty, in particular, and, the academic and research community, in general. It is housed in a separate Ground Plus two-storied building and follows a completely open-access concept. It has a specialized collection in Chemical Engineering, Chemical Sciences, Chemical Technology and Pharmacy and its allied fields. The library can boast of rich heritage collection of old classic books and bound volumes dating back to 1930s. But along with the traditional collection it has a significant digital collection as well. Currently has access to more than 4000 electronic journals. Has access to databases such as Reaxys, Scopus, Web of science, etc. The library is fully computerized using the library management software called Koha. It can be termed as a hybrid library with best collection of printed and digital documents. The library is also a member of ONOS (One Nation One Subscription).

### LIBRARY TIMINGS:

On Working days : 8:30 a.m. – 8:30 p.m.

On 2<sup>nd</sup> and 4<sup>th</sup> Saturdays, Sundays and holidays : 11.00 a.m.– 6.00 p.m.

Throughout the year the library remains closed only on four days, viz. Independence day, Republic day, Ganesh Chaturthi, and Dassera.

### LIBRARY LAYOUT:

The Library is a ground plus two storied building. The layout is as follows:

First Floor	Book Collection and Circulation counter
Second Floor	Current Journals (latest issues), Reference Book Section, Theses Section, Book Bank Section
Ground Floor	Bound volumes (Back Issues) of Journals, Photocopying Section

### MEMBERSHIP:

The bonafide students and faculty of the institute have book lending facility. Book borrowing facility can be availed against ID card.

### LIBRARY PORTAL:

Library portal is hosted on the internet at <http://library.ictmumbai.edu.in>

### LIBRARY COLLECTION:

#### Printed Resources

- **Books:**

The library has a very rich collection of books. The spectrum of the book collection ranges from as old as dating back to 1930s to the latest. The collection has few rare and classic books which is regularly updated with the latest updated books in the area of Chemistry, Applied Chemistry, Chemical Technology, Chemical Engineering, Pharmacy, Energy and Environmental Engineering, Biotechnology, Food Technology and Fermentation, Polymer Science and Technology, Textile Science and Technology, Oils and Surfactants, Speciality Chemical Technology.

**Book Bank** collection is a special collection of Text Books which are issued to students for a longer period.

**Access:** Books can be searched through the computerized catalogue at <http://ict.library.ourlib.in/>

Also two terminals are available on every floor to search through the computerized catalogue.

- **Theses:**

A collection of all the Theses submitted by Ph.D. and Master's students are stored in the library and are available for reference to students.

Access: Theses can be searched through the computerized catalogue at <http://ict.library.ourlib.in>. Also two terminals are available on every floor to search through the computerized catalogue.

- **Bound Volumes:**

The older issues of journals are bound into volumes and are available for reference.

Access: Printed catalogue of all the bound volumes is available at the ground floor in the Bound Volume section.

## DIGITAL RESOURCES

- **Databases**

The Library subscribes to a number of indexing and abstracting and informative databases

Scopus: Scopus is the largest abstract and citation database of peer-reviewed literature: scientific journals, books and conference proceedings. Delivering a comprehensive overview of the world's research output in the fields of science, technology, medicine, social sciences, and arts and humanities, Scopus features smart tools to track, analyze and visualize research.

Access: IP based access is available throughout ICT campus. Registration is not mandatory for access. Link is accessible through the library portal. <https://www.scopus.com/>

Reaxys: Reaxys is a web-based tool for the retrieval of chemistry information and data from published literature, including journals and patents. The information includes chemical compounds, chemical reactions, chemical properties, related bibliographic data, substance data with synthesis planning information, as well as experimental procedures from selected journals and patents. It is licensed by Elsevier.

Access: IP based access is available throughout ICT campus. Registration is not mandatory for access. Link is accessible through the library portal. <https://www.reaxys.com/>

Web of Science: Web of Science is an online subscription-based scientific citation indexing service now maintained by Clarivate Analytics that provides a comprehensive citation search. It gives access to multiple databases that reference cross-disciplinary research, which allows for in-depth exploration of specialized sub-fields within an academic or scientific discipline.

Access: IP based access is available throughout ICT campus. Registration is not mandatory for access. Link is accessible through the library portal. <https://login.webofknowledge.com>

- **eJournals**

The institute is a part of ONOS (One Nation One Subscription) under which the library gets access to a number of electronic journals from renowned publishers like Elsevier (Science Direct), Wiley, Thieme, Springer, Taylor and Francis, ACS, Bentham Science, Springer Nature, etc. The library also subscribes to RSC ejournals.

Access: IP based access to all the ejournals is available throughout ICT campus. Registration is not mandatory for access. Link is accessible through the library portal.

- **eBooks**

Access to a collection of electronic Books published by RSC, ACS, Elsevier, T&F and Pearson eTextbooks is available.

Access: IP based access to all ebooks is available throughout ICT campus. Registration is not mandatory for access. Link is accessible through the library portal and also through Library catalogue.

- **eVideo Journal**

Access to eVideo Journal published by Jove is available.

Access: Link is accessible through the library portal. <https://www.jove.com>

- **eTheses**

The eTheses of ICT as well as other universities are available on inflibnet consortia eShodhganga.

Access: Link is accessible through the library portal. <http://shodhganga.inflibnet.ac.in/handle/10603/9053>

- **Plagiarism check facility**

Similarity check or plagiarism check is available through Drillbit & iThenticate software.

- **eWriting Assistant**

Access to Grammarly is available which assists you in writing and checking grammar and with better vocabulary.

Access: For access registration is mandatory. For registration write an email to [library@ictmumbai.edu.in](mailto:library@ictmumbai.edu.in). The details for registration and how to use would be sent through email. You require institutional email id for registration.

### **Services:**

Every student has to sign an undertaking (copy of which is available in chapter 9) at the time of taking library membership.

Circulation Service

Reference and Referral service

Current awareness Service

Bibliographic Service

Photocopying service

User Orientation programs

E-resources Training Programs

Book Bank Service

### **Facilities:**

Reading Hall with Wi-Fi facility

Remote access facility to access the e-resources off campus is also available through a solution called MyLoft. Please write to [library@ictmumbai.edu.in](mailto:library@ictmumbai.edu.in) for login credentials. Institutional email id is mandatory for remote access.

### **Events/Training Programs:**

Training programs for the usage of e-resources are organized by the library regularly. Such programs and events are announced through emails & library blog <https://mmslib.wixsite.com/ictlibraryblogpost>

Please subscribe to blog for event notifications.

Contact: Tel: +91-22-33611127-29, email: [library@ictmumbai.edu.in](mailto:library@ictmumbai.edu.in)





# INFRASTRUCTURE HOSTELS, COUNSELLING

## 2.14 HOSTELS

### 2.14.1 PREAMBLE

ICT has four hostel blocks on the campus including 2 boys' and 2 girls' hostels. The total number of hostel accommodation seats available for the students at the ICT is nearly 900 (for all courses and years) including 300 lady students.

Hostel No. 1, is the first hostel built in 1951, as University and Birla Hostel, with provision of accommodation for all students of the University of Mumbai. In 1966, Hostel No. 2 was built for accommodating UG and research students with capacity of accommodating 120 students. In 1987, Hostel No.3 was built and in 1990, Hostel No. 4 was built to accommodate the students of ICT (then UDCT). Hostel No. 5, a 7-storey building with the capacity to accommodate 352 students was built during early 2000s and occupied in 2005. The hostel has a good gymnasium and play grounds with sports facilities for in-door and out-door sports activities. Guest room are located in hostel no. 5 which can be used by parents (charges applicable) whenever they visit ICT to meet their wards.

Wardens manage all the affairs of the hostel and are assisted by hostel office staff and student committees headed by general secretaries of hostels. Hostels have 3 Mess which are run internally by the Mess committees headed by Warden. For cleanliness and maintenance of hostels, support staff is appointed. There is a Medical facility available in the hostel.

Hostel demands healthy environment of commitment and discipline among the students. Students are encouraged to develop community life, taking care of their physiological and emotional problems and shape themselves to be better citizens and leaders of tomorrow.

### 2.14.2 PROCESS OF ALLOCATION OF HOSTELS

**ADMISSION TO THE INSTITUTE DOES NOT GUARANTEE ADMISSION TO THE HOSTEL.**

Students need to apply to the hostel separately. Admission would be strictly on merit basis subject to availability of seats.

To secure hostel admission, students must compulsorily have health insurance.

1. Only bonafide students of ICT are entitled for hostel admission.
2. Hostel No. 1 and 5 are allotted to boys. Hostel No. 2 and 3 are only for girls. All the hostels are unaided and maintained by the Institute. Hostel No. 1 is allotted to 1st year undergraduate and Master's degree students Hostel No. 3 is allotted to 1st year undergraduate, Master's and Doctoral girl students.
3. Total number of seats available for fresh admissions is about 240 per year, as per the table below:

Course	Number of admissions in the hostel
First year UG admissions (B.Chem.Engg., B.Pharm. and B.Tech.)	40 girls and 90 boys maximum
First year Master's Degree (M.Chem. Engg., M.E., M.Tech., M.Sc., M.Pharm.)	40 girls and 90 boys depending on availability
Hostel admission to new doctoral students	Subject to availability created due to vacating the hostel by earlier Ph.D. students with respect to the departmental allocation.

11. Accommodation in hostels cannot be guaranteed to all the students who are admitted to ICT for various courses. Preference will be given to undergraduate students.
5. Admission will be offered strictly on merit basis. Preference will always be given to out-station students who come from places beyond the limits of Mumbai and suburbs (i.e. beyond Virar, Titwala, Ambernath, Panvel as well as other places which are beyond 70 km from the institute). As a proof of stay beyond the limits of Mumbai and suburbs, they are

- required to upload scan copies of ration card/ Adhar card and school-leaving certificate. Any false representation in this regard will be strictly dealt with.
- Student who have taken admission to ICT can register on-line through ICT log in portal (<https://ictmumbai.samarth.edu.in/index.php/site/login>) to apply for hostel accommodation. Students need to upload a residence proof, a medical certificate from your family doctor (with clearly mention about chronic health problem or allergy if any). Hostel authority will approve the form and will give call for admission depending upon the availability of seats.
  - Students must confirm the hostel admission by paying the required fee on-line. The hostel fee will be paid by on-line mode only.
  - Admission to hostel is linked to department and course quota. If students cancel the ICT admission and take the admission to another course in ICT need to register again for hostel admission in such case the hostel admission will not be guaranteed.
  - The admission to the hostel will be done by the respective Warden and Hostel Office in concern with Head Warden. All the rights for hostel admissions are reserved with respective Warden, ICT.
  - The Warden of the respective hostel has all the rights to change/transfer a student from one room to other within the hostel for convenience of the administration. Also, every year the student may be shifted from the accommodation provided in earlier year.
  - In case of the year-drop, the candidate will have no claim for hostel accommodation and will have to vacate the hostel. Readmission to hostel for such student on clearing the year-drop will not be guaranteed.
  - Ph.D. Students will not be eligible to stay for more than 5 years in hostel.
  - Every student taking admission to the hostel has to sign an undertaking (copy of which is available in chapter 9) at the time of admission.

### 2.14.3 HOSTEL FEES

Type of Room	Hostel Fees (INR)	Sinking Fund	Other Fees		Total (INR)
			Sports & Cultural Fees	Mess Depreciation	
Double seater	30500	3000	3000	2500	39000
Triple seater	27500	3000	3000	2500	36000
Four & Five Seater & more	25500	3000	3000	2500	34000

\* Hostel fees for the year 2025-26 may increase. Revised fee structure would be made available on the website at the time of admission.

\*Accommodation fees should be paid online following the procedure detailed on <https://ictmumbai.samarth.edu.in/index.php/site/login>

### 2.14.4 HOSTEL MESSES

It is mandatory for all hostel students to join the Hostel Mess allotted to them. Hostels are having two messes for boys and one mess for girls. Each mess is run by the students on co-operative “no-loss - no-profit” basis under the Control of the concerned Warden. Hostel students have been managing their messes since 1951, with an excellent tradition and help student committee members to develop managerial skills. Typical mess charge includes breakfast and two meals a day. Mess Deposit Advances / Monthly Expenses will be extra as per the norms of the respective messes. Mess deposit of INR.5,000/- is required to be paid at the time of joining of Mess, which



will be refunded at the end of the stay. All the mess members are required to pay INR 25,000/- towards advance mess charges from which the monthly mess bill will be deducted every month.

## 2.14.5 HOSTEL MANAGEMENT

### WARDENS AT ICT HOSTELS

Hostel No.	Warden	Telephone
1	Prof. Amit Pratap Head Warden and Warden Hostel No. 5 (Department of Oils, Oleochemicals and Surfactants Technology) email: <a href="mailto:ap.pratap@ictmumbai.edu.in">ap.pratap@ictmumbai.edu.in</a> or <a href="mailto:headwarden@ictmumbai.edu.in">headwarden@ictmumbai.edu.in</a>	3361 2556
2	Dr. Hitesh S. Pawar Warden, Hostel No. 1 (Department of Chemistry) Tel: 91-22-33612323 <i>e-mail: <a href="mailto:hs.pawar@ictmumbai.edu.in">hs.pawar@ictmumbai.edu.in</a></i>	
3	Dr. Gunjan Prakash Warden, Hostel No. 2 (Department of Biological Sciences and Biotechnology) email: <a href="mailto:g.prakash@ictmumbai.edu.in">g.prakash@ictmumbai.edu.in</a>	3361 2316
4	Dr. Shalini Arya Warden, Hostel No. 3 (Department of Food Engineering Technology) email: <a href="mailto:ss.arya@ictmumbai.edu.in">ss.arya@ictmumbai.edu.in</a>	3361 2511
Hostel Office	For details please contact Mrs. Surekha Kamble- Senior Clerk Mr. Sanjay Bansode- Accountant Ms. Aarti Karanjkar- Clerk	3361 1452 3361 1453

## 2.14.6 GENERAL

1. Guest Room facility is available at Hostel No. 5 only for parents who wish to meet their Wards studying at ICT on payment basis. The guest room shall be available for a maximum 10 days per year at concessional rate to the parents and immediate relations (siblings) of students and staff (faculty and support staff) at the below mentioned rates

### Concessional rates

INR 800/-per day per room for AC Room

INR 350/-per day per room for Non AC Room

### Regular Rates

INR 2,200/- per day per room for AC Room

INR 800/- per day per room for Non AC Room

2. Hostels are equipped with Mess, T.V. Room, Reading Room, Playground, Health Centre, Gymkhana, Library and Study Room Facilities.
3. ICT Hostels are equipped with a "Health Centre". Two eminent physicians, Dr. Agarwal and Dr. (Mrs.) Mukne, provide medical advice to all campus residents.
4. All students are covered under Accident Policy of the Institute.
5. Each hostel block is supervised by a Warden, who is a faculty member of the Institute.
6. It is mandatory that all the new entrants to the hostels get their hostel admission forms signed by the Student's Counselor.

### 2.14.7 DISCIPLINE AND DECORUM

1. Smoking and consumption of alcohol is strictly prohibited in hostels and public places in the entire campus of ICT. A strict disciplinary action will be taken against the student involved in misdemeanour and illegal activities.
2. All the students have to report in their respective hostels by 10.00 pm.
3. All senior students must create a conducive and healthy atmosphere in the rich tradition of the ICT and the hostels. Several hostel residents have attained very high positions in their profession, as industrialists, educators and policy makers and brought laurels to the institute; including Padma awards of President of India. Two former Directors of the ICT, Professor M.M. Sharma and Prof J.B. Joshi, and the Former Vice Chancellor, Professor G.D. Yadav have been hostel residents on this campus. Prof. G. U. Chaturbhuj, Dr. Jyotsna Waghmare, who are hostel wardens currently were themselves ICT Hostel residents during their student days. Several other faculty members have also been hostel residents. Faculty and staff quarters are also situated near the hostels bringing a sense of community feeling. Faculty members participate in the programmes arranged by the hostelites and often make themselves available for counselling, whether they are wardens or not. Hostel Day is a special annual day in the lives of hostelites to show their skills and talents in sports, cultural programmes and the like.
4. Another grand tradition of the hostels is that the past students, from all over the world, try to assist the hostel activities by providing monetary help, either through personal donations or company sponsorships.
5. Action against ragging: Maharashtra Prohibition of Ragging Act 1999 is in effect from 15th May 1999. (See details later from UGC in this regard). Any case of ragging should be reported by the victim in writing within three days of the incident to the respective warden with copies marked to: respective Hostel Wardens, Head Warden, Dean- Student Affairs Prof. P. S. Kharkar ([ps.kharkar@ictmumbai.edu.in](mailto:ps.kharkar@ictmumbai.edu.in)) and Dean, Human Resource Development, Prof. R. V. Adivarekar ([rv.adivarekar@ictmumbai.edu.in](mailto:rv.adivarekar@ictmumbai.edu.in)), and Registrar, Professor B. R. Jogi ([registrar@ictmumbai.edu.in](mailto:registrar@ictmumbai.edu.in)).
6. Detailed rules and regulations will be provided during admission.

### 2.15 COUNSELLING SERVICES

Counseling services are available for the benefit of all the students of the Institute - right from First year to those doing their Doctorate. The Counselor - **Ms. Malini Shah**, with her in-depth knowledge of Philosophy and Psychology, has been actively participating in this important activity. The Counselor deals with all types of personal and academically related problems and students are free to meet her from Tuesday to Friday any time between 11.30 a.m. and 4.30 p.m.

**It is mandatory for all the first year students (UG and PG) including hostelites to meet the Counselor [in her office on 1<sup>st</sup> floor, Godrej Students Centre) (Intercom No. 1351), in groups of ten for an interactive session.** Interactive Sessions are held from time to time to make the students aware of their plus points and weak points. Later on, a one - to - one session is held in order to help them develop confidence and overcome difficulties which may be too personal. All the students are free to meet **Ms. Malini Shah** any time they feel by prior appointment.









# PROGRAMMES OF STUDY AND CRITERIA OF ELIGIBILITY FOR ADMISSION



### 3.1 STUDY IN INDIA PROGRAMME FOR FOREIGNERS AND QUOTA FOR NRI, PIO AND OTHER FOREIGN NATIONALS STUDENTS

1. The Ministry of Human Resources Development (HRD) has approved 'STUDY IN INDIA' programme to attract foreign students to pursue higher education in India. ICT, Mumbai has participated in this program for Undergraduate and Postgraduate programs and NRI, PIO and other foreign students are encouraged to apply for these programs through <https://www.studyinindia.gov.in/>
2. ICT has decided to stay in "Study in India" program with One student per Programme.

### 3.2 PROGRAMMES OFFERED

#### BACHELOR'S PROGRAMMES [See Section 3.2 for details]

Admissions to B.Chem.Engg. and B.Tech. (seven branches) :

- a) 70% for State of Maharashtra and
- b) 30% for All India (all States and Union Territories including Maharashtra)

#### Admissions to B.Pharm.:

100% for State of Maharashtra.

#### Programmes Offered

1. Bachelor of Chemical Engineering (B. Chem. Engg.)
2. Bachelor of Pharmacy (B. Pharm.)
3. Bachelor of Technology (B. Tech.) in
  - a. Dyestuff Technology
  - b. Fibres and Textiles Processing Technology
  - c. Food Engineering and Technology
  - d. Oils, Oleochemicals and Surfactants Technology
  - e. Pharmaceutical Chemistry and Technology
  - f. Polymer Engineering and Technology
  - g. Surface Coating Technology

#### MASTER'S PROGRAMMES [See Section 3.3 for details]

#### Programmes Offered

1. Master of Chemical Engineering (M. Chem. Engg.) (Full-time 2-years)
2. Master of Pharmacy (M. Pharm.) (Full-time 2-years) in
  - Pharmaceutics
  - Pharmaceutical Chemistry
  - Pharmacology
  - Pharmacognosy
3. Master of Technology (M. Tech.) (Full-time 2-years) in
  - Dyestuff Technology
  - Fibres and Textile Processing Technology
  - Food Engineering and Technology
  - Oils, Oleochemicals and Surfactants Technology
  - Pharmaceutical Chemistry and Technology
  - Polymer Engineering and Technology
  - Surface Coating Technology
  - Green Technology

- Perfumery and Flavour Technology
- 4. Master of Technology (M. Tech.) (Full-time 2-years) in
  - Bioprocess Technology
  - Food Biotechnology
  - Pharmaceutical Biotechnology
- 5. M. E. (Plastic Engineering) (Full-time 2-years)
- 6. M. Sc. (By Papers) (Full-time 2-years) in
  - Chemistry
  - Engineering Mathematics
  - Physics (Material Science)
  - Textile Chemistry

#### **DOCTORAL PROGRAMMES [See Section 3.4 for details]**

##### **1. Ph. D. (Tech.) and DIRECT Ph. D. (Tech.) in**

Bioprocess Technology  
 Chemical Engineering  
 Dyestuff Technology  
 Fibres and Textile Processing Technology  
 Food Biotechnology  
 Food Engineering and Technology  
 Green Technology  
 Nanotechnology  
 Oils, Oleochemicals and Surfactants Technology  
 Pharmacy@  
 Pharmaceutical Technology  
 Polymer Engineering and Technology  
 Surface Coating Technology  
 Plastic Engineering  
 Perfumery and Flavour Technology

##### **Ph. D. (Tech.) in**

Civil Engineering  
 Electrical Engineering  
 Electronics Engineering  
 Mechanical Engineering

##### **@ Ph. D. (Tech.) in Pharmacy has following four branches:**

Pharmaceutics  
 Pharmaceutical Chemistry  
 Pharmacology  
 Pharmacognosy

##### **2. Ph. D. (Sci.) in**

Biochemistry  
 Biotechnology  
 Chemistry  
 Physics  
 Mathematics  
 Food Science  
 Textile Chemistry

All Ph.D. programmes are now redesigned with course work as per UGC regulations.



**MASTER OF BUSINESS ADMINISTRATION (MBA) IN INNOVATION, ENTREPRENEURSHIP AND VENTURE DEVELOPMENT (IEV) (Two Year) [See Section 3.4.7 for details]**

**POSTGRADUATE DIPLOMA [See Section 3.4.8 for details]**

**POSTGRADUATE DIPLOMA IN CHEMICAL TECHNOLOGY MANAGEMENT (One and Half Years)**

**HIGHLIGHTS:**

1. A candidate, who fails to accept an offer of admission to any of the programmes, made by the Institute, for whatever reasons, forfeits his/her claim for admission for that academic year (1<sup>st</sup> July 2025 to 30<sup>th</sup> June 2026) and the seat may be offered to the next eligible candidate in the order of merit. The acceptance of the offer implies payment of the prescribed fees and deposit along with relevant documents by the date specified in the offer letter.
2. The Institute shall not enter into any correspondence with the candidates in the matter related to admission, such as incomplete forms, non-submission of necessary documents in given time period, non-submission of online fee of necessary application along with filled application form, absenteeism at the institutional tests for entrance tests for Master's and Ph.D. programmes, for any reason, non-acceptance of the offer of admission to any of the courses in given time period, etc.
3. No age limit is prescribed for admission to the programme.  
All Rights regarding the admissions at the ICT are reserved with the Vice Chancellor, ICT.

### **3.3 ADMISSION TO BACHELOR'S PROGRAMMES**

**ADMISSION TO FIRST YEAR OF FOUR YEARS- B. Chem. Engg., B. Tech. (SEVEN BRANCHES) AND B. Pharm. DEGREE PROGRAMMES IN ICT, MUMBAI (FOR THE ACADEMIC YEAR 2025-26)**

All these admissions will be conducted by Govt. of Maharashtra.

Please Refer Govt. of Maharashtra Brochure of Admissions and their Website

FOR ALL DETAILS ([www.mahacet.org](http://www.mahacet.org))

Admission quota for B. Chem. Engg./ B. Tech. (seven branches)/ B. Pharm. courses are as follows.

- I [B. Chem. Engg. AND B. Tech. (SEVEN BRANCHES)]  
The availability of seats for these courses shall be as
  - a) 70% for State of Maharashtra and
  - b) 30% for All India (all States and Union Territories including Maharashtra)
- II [B. Pharm.] 100% for State of Maharashtra

### **BACHELOR'S PROGRAMMES OF STUDIES AND INTAKE CAPACITY**

All UG Programmes are post - HSC/ 12<sup>th</sup> Std. Four - Year Semesterised Degree Programmes.

1. Bachelor of Chemical Engineering (B. Chem. Engg.) : 75 Seats
2. Bachelor of Technology (B.Tech.) in
  - (a) Dyestuff Technology : 18 Seats
  - (b) Fibres and Textiles Processing Technology : 34 Seats
  - (c) Food Engineering and Technology : 16 Seats
  - (d) Oils, Oleochemicals and Surfactants Technology : 16 Seats
  - (e) Pharmaceuticals Chemistry and Technology : 18 Seats
  - (f) Polymer Engineering and Technology : 16 Seats
  - (g) Surface Coating Technology : 16 Seats

3. Bachelor of Pharmacy (B.Pharm.) : 30 Seats

### FEES, CONCESSIONS, CANCELLATIONS AND REFUND:

The candidates admitted during 2025-26 are required to pay fees as prescribed by the State government (subject to revision by the State Government).

The institutional fees to be paid by all the admitted candidates are as follows :

Sr. No.	Details	Fee for 1 <sup>st</sup> Year (Rs.)**
1.	Library Deposit	5,000/-
2.	Fees	As per Government Regulations
	TOTAL	To be Declared in Admission Notice

\*Note: Fees of candidates belonging to SC/ST/OBC/VJNT/SBC is reimbursed by Govt. of Maharashtra.

\*\*These are only indicative figures and likely to be changed.

Cancellation rules of the fees will as per MH-CET/DTE guidelines

## 3.4 MASTER'S DEGREE PROGRAMMES

### PROGRAMMES OF STUDIES, ADMISSION CRITERIA AND CAPACITY

1. All Masters programmes listed in the Table 3.3.1 are full-time programmes of 2 years duration.
2. M. Chem. Engg., M. Pharm. and all M. Tech. Programmes are partly by papers (two semesters) and partly by thesis (two semesters) with fellowship for students who have valid GATE/GPAT Examination scores.
3. All M. Sc. Programmes are two-year programmes (four semesters) only by papers. No fellowships are available to any of the M. Sc. (by papers) Programmes.
4. For eligibility, the candidate should have passed any one of the Bachelor's degree as mentioned in required qualification for that respective programme. The candidate should have passed Bachelor's degree from ICT or any equivalent examination of a post HSC/HSSC four-year degree programme of IIT/NIT or any university/institute recognized by UGC/AICTE. **For all the Postgraduate Programmes as listed in Table 3.3.1, the candidate should have passed required bachelor's degree with 60% marks in aggregate or equivalent CGPA. (55% marks in aggregate or equivalent CGPA for the backward class candidates)**
5. Any other equivalent degree of full four-year duration for that respective programme will be considered subject to the clearance from the equivalence recognition committee of Institute of Chemical Technology.
6. For M. Tech. programmes in Bioprocess Technology, Food Biotechnology and Pharmaceutical Biotechnology, admissions will be done through Graduate Aptitude Test – biotechnology (GAT-B) 2025 conducted by Department of Biotechnology. The internal distribution of seats, if any, will be declared at the time of admission. The detailed procedure for filling the application form, payment of application fee and uploading of required documents/certificates is given at : <https://dbt.nta.ac.in/> A non-refundable and non-transferable application fee will be charged as per DBT guidelines and the admitted candidates will receive fellowship as per DBT guidelines.
7. For four different specializations in M. Pharm. programme, candidates will have to fill option form clearly stating his/her preferences at the time of admission. The preference will be given based on merit. Only in case of seats remaining vacant, the candidate will be transferred to higher preference.
8. The selection for the AICTE/UGC/PCI fellowships, as declared by the authorities from time to time, if applicable, fellowship shall be based on valid GATE/GPAT score (Level 1 – Table 3.3.2) and the performance in the Institute's written test. (Level 2 and Level 3 – Table 3.3.2).

The admissions for Level 2 and Level 3 programmes will be done on the basis of marks obtained in Institute entrance examination.

# 9. Reservation policy will be applicable as per the government norms.

**TABLE 3.3.1 : MASTER'S DEGREE PROGRAMMES**

Sr	Post Graduate Programme	Sanctioned Intake	Required qualification
1	M. Chem. Engg.	30	B. Chem. Engg, B. E./ B. Tech in Chemical Engineering/ Biochemical Engineering. B. E./B. Tech./B. Sc. (Tech.) in Textile Processing/Textile Chemistry/ Texile Technology/ Fibres and Textile Processing/ Fiber Technolgy with significant emphasis on chemical processing of Textiles B. E./ B. Tech./ B. Sc. (Tech.) in Food Engineering and Technology/ Food Engineering/ Food Technology/ Food Science/ Food Processing Technology. B. Tech/ B. Sc. (Tech.) in Oils Technology/ Oils, Oleochemicals and Surfactants Technology. B. E./ B. Tech./ B. Sc. (Tech.) in Polymer Engineering and Technology/ Surface Coating Technology/ Technology of Plastics/ Technology of Paints/ Rubber Technology/Polymer Engineering/ Plastics Engineering/Petrochemical Engineering/ Petrochemical Technology/ Paints Technology/ Polymer Technology/Plastics Technology
2	M. Tech. (Dyestuff Technology)	18	B. Chem. Engg./ B. Sc. (Tech.)/B. Tech. in any branch of Chemical Technology/ Biotechnology/ B.Pharm M.Sc. (Chemistry)
3	M. Tech. (Oils, Oleochemicals and Surfactants Technolgy)	18	B. Chem. Engg./ B. Sc. (Tech.)/ B. Tech. in any branch of Chemical Technology and Engineering
4	M. Tech. (Food Engineering and Technology)	18	B. E./ B. Tech./ B. Sc. (Tech.) in Food Engineering and Technology/Food Engineering/Food Technolgy/Food Science/ Food Process Engineering
5	M. Tech. (Polymer Engineering and Technology)	18	B. E./B.Tech./ B. Sc. (Tech.) in Polymer Engineering and Technology/ Plastics Technology/Plastic Processing/ Rubber Technology/ Petrochemicals and Chemical Engineering/ Surface Coating/Paint Technology
6	M. Tech. (Surface Coating Technology)	18	B. E./ B. Tech./ B. Sc. (Tech.) in Surface Coating Technology/Paints Technology/ Oils Technology/ Polymer Technology/ Chemical Engineering
7	M. Tech. (Fibres and Textiles Processing Technology)	18	/ Textile Engineering / Polymer Technology / Technical Textiles / Garment Manufacturing Technology
8	M. Tech. (Pharmaceutical Chemistry and Technology)	18	B. Sc. (Tech.) in pharmaceuticals and Fine Chemicals/ B. Tech. in Pharmaceutical Chemistry and Technology or equivalent B. Tech. with Pharmacy background only/ B. Tech. in Dyestuff Technology/ B. Pharm



Sr	Post Graduate Programme	Sanctioned Intake	Required qualification
9	M. Pharm. Pharmaceutics Pharmaceutical Chemistry Pharmacology Pharmacognosy	6 6 6 6	B. Pharm.
10	M.E (Plastics Engineering)	18	B. E./B.Tech. in Mechanical Engineering/Plastics Engg/Polymer Engineering/Production Engineering/Chemical Engineering/Chemical Plant Engg
11	M. Tech. (Green Technology)	30	B. Tech. in Chemical Engineering or equivalent such as B. Tech. in Biochemical Engineering, Environmental Engineering, Petroleum Engineering, Petrochemical Engineering, etc. B. Tech. in Chemical Technology (all 7 branches of ICT Mumbai), Petrochemical Technology, etc. B. Tech. in Biotechnology, Bioprocess Technology, Biochemical Technology, etc.
12	M. Tech. (Perfumary and Flavour Technology)	18	B. Chem. Engg./B. Tech./B. Sc. (Tech.) B. Tech./B. Sc. (Tech.) in any branch of Chemical Technology/Biotechnology. B. Pharm. M. Sc. in Chemistry/Biotechnology/Biochemistry
13	M. Tech. (Bioprocess Technology)	30	B. Chem. Engg./B. Pharm. B. E./B. Tech. in Chemical Engineering/Chemical Technology/Food Engineering and Technology/Food Engineering/Food Technology/Food Process Technology/Food Process Engineering/ Dairy Technology/Biotechnology/Biochemical Engineering/Biomedical Engineering/Pharmaceutical Technology/Industrial Biotechnology.
14	M. Tech (Food Biotechnology)	10	B. E/B. Tech/B. Sc. (Tech) in Food Engineering and Technology/Food Enginnering/Food Technology/Food Science/Food Process Technology/Food Process Engineering/Dairy Technology/Biotechnology/Biochemical Engineering/Pharmaceutical Technology/Oil Technology.
15	M. Tech. (Pharmaceutical Biotechnology)	15	B. Pharm. B. E./B. Tech./B. Sc. (Tech.) in Biotechnology/ Biochemical Engineering/ Pharmaceutical Technology/Industrial Biotechnology B.E/B.Tech in Chemical Engineering /Biomedical Engineering. B.Chem.Engg
16	M.Sc. (Chemistry) By Papers	20	B. Sc. with Chemistry as major subject and and Mathematics at HSC Level
17	M.Sc. (Engg. Mathematics) By Papers	20	B. Sc. with Mathematics/Statistics B.E /B. Tech. with at least four mathematics courses.

Sr	Post Graduate Programme	Sanctioned Intake	Required qualification
18	M. Sc. (Physics) Material Science By Papers	20	B. Sc. with Physics at third year of the programme B. E./B.Tech. only if equivalence committee at ICT recommends based on syllabus.
19	M. Sc. (Textile Chemistry) By Papers	20	B. Sc. with Chemistry at the third year of programme; B. Sc. with Textile Chemistry, Apparel/clothing/home science

### 3.4.2 GRADUATE APTITUDE TEST IN ENGINEERING (GATE) AND GRADUATE PHARMACY APTITUDE TEST (GPAT) FOR THE AICTE/UGC/PCI, WHICHEVER IS APPLICABLE, FELLOWSHIPS

- (1) The candidates seeking admission to the degrees of M. Chem. Engg./M.Tech./ M. E.(Plastic Engg.) are required to qualify the Graduate Aptitude Test in Engineering (GATE) conducted at the national level.
- (2) The candidates seeking admission to M. Pharm. are required to qualify the Graduate Pharmacy Aptitude Test conducted at the national level. GATE-qualified candidates are also eligible for admission to M. Tech. (Green Tech.), M. Tech. (Perfumery and Flavour Technology) and M. Tech. (Oils, Oleochemicals and Surfactants Technology) Programmes.
- (3) Rules for availing GATE scholarships:
  - a. The Fellowships (subject to sanction and availability) are awarded only to the candidates who have passed the GATE examination with valid score and on the basis of merit.
  - b. The student must give an undertaking to the effect that he/she would not leave the course midway in order to be eligible to receive the Fellowship. During the course of studies, such student shall not receive any other fellowship/ honorarium/ emoluments, salary, stipend, etc., from any other source. Any violation in such cases will be dealt with as per AICTE/ Funding Agency norms.
  - c. The student receiving the fellowship must secure minimum 60% marks or equivalent CGPA during the first and the second semester course work examinations to become eligible for continuation of the Fellowship at the existing rate during the second, third and fourth semesters, respectively.
  - d. Students are being cautioned that according to AICTE rules, a student who secures marks below 60% or equivalent CGPA in the first and/or second semester examination shall be eligible to get a reduced fellowship at the rate of Rs. 1,000/- p.m. only.
  - e. In case of failure at the semester I examination, the fellowship shall be discontinued during the remaining period of the course. The fellowship may also be discontinued at any kind of misconduct by the student receiving the same. The fellowship once discontinued shall not be restored, even if a student secures 60% marks or equivalent CGPA at the second semester.
  - f. The Fellowship amounts are normally disbursed every month after starting the Fellowship, subject to receiving the grant from the AICTE. The fellowship amount shall be disbursed only after receiving the appropriate grant from the AICTE.
  - g. Documents required for fellowship
    1. Valid GATE/GPAT Score card pdf copy.
    2. Reserved Category Document
      - I. Cast Certificate

II. Cast Validity

III. Non-Creamy Layer Certificate

3. Aadhar Card

The Institute shall not be responsible for non-receipt of fellowship grant from AICTE/UGC/PCT, whichever is applicable, in time. The students will be required to give an Undertaking in writing to this effect.

### 3.4.3 ADMISSION CRITERIA

Admission to the Master's Programmes (Sr. No. 1- 15 in Table 3.4.1 and those at ICT - IOCB and ICT - MARJ Campuses in the following Tables) are available subject to the rules given below:

The first preference for admission to a Programme/ Branch will be given to the candidates qualifying Bachelor's course with valid GATE/GPAT score, as applicable from the respective discipline (Level 1 - Table 3.4.2).

Seats vacant after Level 1 will be allotted to Level 2 candidates as per the merit list. Only after filling the vacancies by such candidates, the candidates possessing a qualifying Bachelor's degree with valid GATE/GPAT score from any other programme/ branch will be considered for admission. (Level 2 - See Table 3.4.2)

Preparation of the merit list will be done at two levels, Level 1 and Level 2 separately.

**Level 1:** Merit list will be prepared on valid GATE/GPAT score in the specified subject and no written test or interview will be conducted. Admissions through Level 2 shall be made only if any seats remain vacant after exhausting the merit list from Level 1.

**Level 2:** Merit list will be prepared on the basis of valid GATE score (in any subject) and written test (based on the syllabus specified by the Department for the course in which the candidate is seeking admission) on the basis of 70:30 weightage. In case of interdisciplinary shift of Programme/Branch, interviews will be conducted to find the suitability of the candidate. There will be an external expert on the interview committee.

**Level 3:** Merit list will be prepared on the basis of written test alone (based on the syllabus specified by the Department for the course in which the candidate is seeking admission).

**Admission to the following three courses :**

- M. Tech. (Bioprocess Technology)
- M. Tech. (Food Biotechnology)
- M. Tech. (Pharmaceutical Biotechnology)

will be based on the results of the Graduate Aptitude Test-Biotechnology (GAT-B) 2025 conducted by Department of Biotechnology. The details are given at: [www.rcb.res.in/GATB](http://www.rcb.res.in/GATB).

**Table 3.4.2: Criterion for Preparation of Merit List**

Department conducting the written test	Course in which the candidate is seeking admission	Preparation of First Merit list
Chemical Engineering	M. Chem. Engg.	Level 1 and 2
Speciality Chemicals Technology	M. Tech. (Green Technology)	Level 2
	M. Tech. (Perfumary and Flavour Technology)	Level 2
Fibres and Textile Processing Technology	M. Tech. (Fibres and Textile Processing Technology)	Level 1 and 2
	M. Sc. (Textile Chemistry)	Level 3
Food Engineering and Technology	M. Tech. (Food Engineering and Technology)	Level 1 and 2



Department conducting the written test	Course in which the candidate is seeking admission	Preparation of First Merit list
Oils, Oleochemicals and Surfactants Technology	M. Tech. (Oils, Oleochemicals and Surfactants)	Level 2
Pharmaceutical Sciences and Technology	M. Tech. (Pharm. Chem. Tech.)	Level 2
	M. Pharm.	Level 1
Polymer and Surface Engineering	M. Tech. (Surface Coating Technology)	Levels 1 and 2
General Engineering	M. E. (Plastics Engineering)	Level 2
Chemistry	M. Sc. (Chemistry)	Level 3
Mathematics	M. Sc. (Engineering Mathematics)	Level 3
Physics	M. Sc. Physics (Material Science)	Level 3

The admission procedure for M. Chem. Engg., M. Tech. and M. Pharm. programmes will be conducted after declaration of GATE 2025/GPAT 2025 results. Candidates are requested to visit the institute website time to time for admission related matters. The candidates who are qualified with valid GATE/GPAT score and appearing for final semester examination of the qualifying Bachelor's programme must have obtained aggregate 60% of the marks or equivalent CGPA [55% of the marks or equivalent CGPA for the backward class candidate] at the end of 6th semester of the qualifying Bachelor's course. Only a provisional admission will be offered in such cases. For confirmation of admission, at a later date, however, overall 60% of the marks in aggregate or equivalent CGPA [55% of the marks in aggregate or equivalent CGPA for the backward class candidate] are necessary at the qualifying examination. The admission of candidate not fulfilling the admission criteria may be cancelled at any time during the tenure of programme.

In case the candidate is admitted to a programme/branch other than the one in which he/she has obtained qualifying Bachelor's degree, he/she will have to undergo at least Three Make-Up Credit Courses (to be decided by the department admitting such candidate).

Preference will be given to candidates with valid GATE/GPAT score; however, Non-GATE/Non-GPAT candidates may also apply. The merit of Non-GATE candidates will be totally based on the written test designed on the basic course, the syllabus of which shall be provided by each Department and displayed on the ICT website.

Design of written test would be such that basic knowledge in the discipline in which the candidate is seeking admission is tested. The syllabus for the written test will be available on the ICT website.

The final merit lists would be prepared on the basis of the criteria given above.

The group of selected candidates, unless selected on a specific project, may be given a presentation about all research activities in the department and available projects for selection of project/guide. The final allotment of the research guides will be done by the Departmental committee based on the merit and preferences given by the candidate and admissible rules and regulations.

All these rules also apply to the candidates who will be conducting their research work leading to a Degree under any type of sponsored projects (Govt. or Private).

### 3.4.4 APPLICATION PROCEDURE FOR MASTER'S PROGRAMMES

For admission at the ICT for any of the Master's Programmes, a candidate should apply online for admission applications. (website <http://ictmumbai.edu.in>). Click on Apply online for Admission 2025-26.

### 3.4.4.1 ONLINE APPLICATION :

**To Fill the online application form below steps are required:**

**Step: 1 » Personal Information.**

Date of birth, Mobile No, Address, Caste, Category Details, Scanned colour Photo (Must be less than 40 kb, format-.jpg/.jpeg).

**Step: 2 » Education details starting with Xth, XIIth/ Diploma, Graduation (if applicable).**

Carefully select between options of Percent System or Grade System.

Year of Passing of each degree should be carefully specified.

Board of Examination decides the normalization factor, so specify correctly.

**Step: 3 » Entrance Exam Details.**

Select entrance exam in which you will appear.

Enter Application Id, Mobile Number, Roll No, Enter Grade/ Percentage/ Percentile/ score/ Rank correctly.

**Step: 4 and 5 » Upload Scanned Documents.**

All mark sheets and certificates.

Category/ caste document, migration, domicile certificate etc.

**Step: 6 » Payment details for admission form.**

You can pay application form fee with online mode by using Credit/ Debit card or by Net Banking only.

After submitting the form, students can take a print of application form for their reference.

**The candidate shall fill the appropriate application form/s, separate for each programme of choice.**

All the relevant entries in the application form must be completed. Incomplete forms will be rejected and no correspondence will be made in this regard.

**Writing contact details such as permanent address, address for correspondence, Mobile No./ Telephone No./ and email address in the application form is essential. Do not leave any space blank.**

The duly filled form along with ATTESTED PHOTOCOPIES of required certificates to substantiate the claims made in their application form should be submitted online. The Admission application fees once paid is non-refundable and non-transferable under any circumstances.

Incomplete applications shall be rejected without entering into any correspondence with the applicant.

The candidates seeking admission at the ICT must submit ATTESTED PHOTOCOPIES of all the documents as given in Table 3.4.3 below along with the application form.

Attachment of any certificates will not be accepted separately after submission of the application form.

The candidates belonging to the reserved categories will be required to submit Caste Certificate, Caste/ Tribe Validity Certificate as applicable at the time of submitting the application form, failing which the category claimed, will not be granted and the candidate will be treated as a General candidate.

The candidates shall not attach a copy of any other certificate which is not asked for, such as certificates for participation in sports, cultural activities, etc.

If the candidate produces any certificate, which is not in Marathi, Hindi or English language, authenticated Marathi, Hindi or English version of the same, duly attested by a Gazetted Officer shall also be produced.

TABLE 3.3.3 : Documents to be attached with the Application form for PG admissions

Sr. No.	Type of Candidate	Attested true copies of documents to be attached along with application form
I	All Candidates	1. SSC (Std. X) mark sheet,
		2. HSC (Std. XII) mark sheet,
		3. All Mark sheets of Bachelor's Course
		4. Bachelor's degree certificate
		5. College Leaving/ Transfer certificate
		6. Migration certificate (within one month after confirmation of admission)
		7. Industrial/Teaching experience/ Gap Certificate, if any
		8. GATE/GPAT score card.
II	Backward class Candidates belonging to SC/ ST Categories	Caste certificate, Caste/ Tribe Validity certificate, as applicable. (In addition to the documents mentioned in Sr. No. I)
III	Backward Class Candidates belonging to OBC category (Maharashtra State candidates only)	Caste certificate, Caste/ Tribe Validity certificate, Non Creamy Layer Certificate valid up to 31 <sup>st</sup> March 2025. (In addition to the documents mentioned in Sr. No. I)
IV	Backward Class Candidates belonging to OBC category (Outside Maharashtra State candidates only)	Cast Certificate issued by Central Government

### 3.4.5 RULES AND REGULATIONS ABOUT RESERVATION

Reservation in admission is only for SC/ST/OBC categories on All-India basis will be applicable to all of the Masters Programmes M. Chem. Engg., M. Pharm., M. Tech. (all branches), M. E. (Plastic Engg.), M. Sc. as per the Government norms.

#### 3.4.5.1 CASTE CERTIFICATE AND CASTE/ TRIBE VALIDITY CERTIFICATE.

- Caste Certificate: The candidates belonging to the backward class category will be required to submit the Caste Certificate at the time of admission, failing which the category claimed will not be granted and the candidate will be treated as a General Candidate.
- Caste Validity Certificate: The candidates belonging to the SC/ST/OBC category will be required to submit the Caste/Tribe Validity Certificate at the time of admission, failing which the category claimed will not be granted and the candidate will be treated as a General Candidate.

### 3.4.6 FEES, CONCESSIONS, CANCELLATIONS AND REFUND

#### 3.4.6.1 FEES PRESCRIBED:

The candidates admitted during 2025-26 are required to pay fees as prescribed by the State government (subject to revision by the State Government).

The institutional fees to be paid by all the admitted candidates are as follows. These are only indicative figures and likely to be changed :



### POSTGRADUATE (M. CHEM. ENGG., M. TECH., M. PHARM., M. E. (PLASTIC ENGG.))

Sr. No.	Details	Fee for 1 <sup>st</sup> Year (Rs.)
1.	Library Deposit	5,000/- (One Time)
2.	Academic Fees	62,750/-
3.	Other Fees	38,250/- (Including Contingency)
	<b>TOTAL</b>	<b>1,06,000/-</b>

**Second Year Fees : Rs. 1,01,000/-**

\*Note: Contingency amount for Masters students admitted under various fellowships will be as per the norms of respective sponsoring funding agencies.

### M.Sc. (PHYSICS/ CHEMISTRY/ TEXTILE CHEMISTRY) COURSES AT ICT FOR THE ACADEMIC YEAR 2025-2026.

Sr. No.	Details	Fee for 1 <sup>st</sup> Year (Rs.)
1.	Library Deposit	5,000/-
2.	Fees	40,000/-
3.	Other Fees	21,250/- (Including Research Contingency)
	<b>TOTAL</b>	<b>75,750/-</b>

**Second Year Fees: Rs. 70750/-**

### M.Sc. (MATHEMATICS) COURSES AT ICT FOR THE ACADEMIC YEAR 2025-2026.

Sr. No.	Details	Fee for 1st Year (Rs.)
1.	Library Deposit	5,000/-
2.	Fees	49125/-
3.	Other Fees	16250/-
	<b>TOTAL</b>	<b>70375/-</b>

**Second Year Fees : Rs. 65375/-**

#### Notes:

- For confirmation of seat allotted, all candidates have to submit Demand Draft in favour of 'INSTITUTE OF CHEMICAL TECHNOLOGY, Mumbai', payable at Mumbai, of appropriate values as shown in above TABLE.
- Hostel Fees shall be charged additionally in case of candidates opting for hostel accommodation (the details are given in Section on Hostels).
- Vide letters no. जा.क्रं./स.आ.स.क/मु.श./व्या.प.आ./अ.जा.क्रि.स्कॉ/२०१५-१६@५०१२ dated 17th August, 2015 received from Assistant Commissioner, Social Welfare Department, Mumbai city and जा.क्रं./सकआ/शिक्षण/रतंसं/२०१५-१६ पुणे २१६४ dated 11th August, 2015 received from Joint Director, Social Welfare Department, Pune, "All reserved category students for Master and Ph.D. who are getting any fellowship are not entitled to get Freeship/Scholarship from Government of Maharashtra."

#### LIBRARY DEPOSIT:

Library deposit received from the students shall be refunded after successful completion of the programme or after cancelling the admission, subject to producing Original Receipt. Unless there is any recovery, no deduction shall be made from the Library deposit. However, the amount of Library deposit shall be credited to institute, if the candidate does not apply for refund, within 3 complete financial years after the student actually leaves the institution; or, within 3 complete financial years after the date of successful completion of the course, whichever is earlier.

#### REIMBURSEMENT OF TUITION FEE:

Candidates claiming concession under the categories of EBC and sons and daughters for

teaching and non-teaching staff of primary, secondary and higher secondary schools shall pay entire fee as applicable at the time of admission and subsequently candidates have to apply to the respective authorities for reimbursement of tuition fees. The quantum of reimbursement received by the institute from the concerned authorities shall be disbursed to the candidate.

#### **CANCELLATION OF ADMISSION AND REFUND OF FEES:**

Candidate who has been admitted to ICT may cancel admission by submitting an application in duplicate, in the prescribed Proforma - E and request for refund of fees. The refund of fees as applicable shall be made in due course of time. It is made clear that such application for cancellations will be considered if and only if the admission has been confirmed by paying the prescribed tuition fee and other fees in full and by submitting all the necessary original documents. Refund shall be made after deduction of cancellation charges as shown below –

**All Rights regarding the admissions at the ICT are reserved with the Vice Chancellor, ICT.**

Sr. No.	SITUATION	REFUND
1	Request received on or before 15 calendar days from the Date of Admission (including the Admission Day)*	Entire fee less Rs.5000/-
2	Request received between 16 to 30 calendar days from the Date of Admission (including the Admission Day)*	50% of entire fee
3	Request received after 30 calendar days from the Date of Admission (including the Admission Day)*	No refund except library deposit

\* Admission cancellation request must be received on or before the last day of the PG Admission 2025-26, which will be announced in a separate notice on ICT Website. Admission cancellation request received after the last day of PG Admission 2025-26, irrespective of the No. of days from the Date of Admission will not receive any refund (Except library deposit). These Rules will be applicable across all campuses of ICT Mumbai.

### **3.4.7 TWO-YEAR MASTER OF BUSINESS ADMINISTRATION (MBA) IN INNOVATION, ENTREPRENEURSHIP AND VENTURE DEVELOPMENT**

#### **Introduction**

The Institute is offering a master's programme in Innovation and Entrepreneurship from Academic Year 2025-26, in line with the All-India Council for Technical Education (AICTE) recommendation. The programme is called Master of Business Administration in Innovation, Entrepreneurship and Venture Development (MBA IEV). This is a two-year programme consisting of four semesters. All the courses will be credit based and the evaluation will be grade based.

The course is being introduced with the following Program Outcomes –

1. The graduates will learn management of innovation, entrepreneurship and venture development from foundation to advanced stages.
2. The graduates will learn to apply their entrepreneurial skills in real life situations.
3. The graduates will be able to validate ideas, build innovations, identify markets and build successful ventures.

The Program Specific Outcomes include –

1. Graduates will be equipped with key concepts of entrepreneurship, innovation and new venture development.
2. Graduates will know how to take an idea, build a prototype, and launch in the market.

3. Graduates will be able to demonstrate how to market an idea/prototype which is already launched.
4. Graduates will be imparted all-round training to start their own business ventures.

### Course Objectives:

**Nurturing Technocrats:** Train the next generation of technocrats to harness the power of technology, innovation, and enterprise.

**Leading Change:** Equip students to lead change effectively in their respective fields.

**Delivering Impact:** Focus on creating measurable impacts, particularly through projects and initiatives that demonstrate real-world applications of learned skills.

**Social Entrepreneurship:** Special emphasis on developing business models that contribute to social change and benefit society at large.

### Program Highlights:

**Duration:** Two years, full-time.

**Curriculum:** Designed in accordance with AICTE guidelines, blending theoretical knowledge with practical application (Capstone Projects, Action Learning Segments)

**Learning Modules:** Include Technology Management, Venture Creation, Financial Management in New Ventures, Social Impact Strategy, Corporate Law, Business Management, Social Immersion, etc.

**Hands-On Experience:** Opportunities for Start-up/Incubation Residency, Venture Establishment at ICT-NICE Venture Incubator and Foundation, etc..

**Mentorship:** Access to a network of industry leaders, academic experts, and entrepreneurs.

**Career Opportunities:** Preparation for roles such as Technology Manager, Innovation Lead, Entrepreneur, Venture Developer, Social Impact Consultant, etc.

**Eligibility criteria:** Graduate in Engineering /Technology streams  
Successfully Qualified MAH MBA CET 2025 Test

## 3.4.8 POSTGRADUATE DIPLOMA IN CHEMICAL TECHNOLOGY MANAGEMENT

The ICT has a rich tradition of first generation entrepreneurs as its graduates. In order to groom our Ph.D. students into etiquettes of business management, a certificate course in Chemical Technology was started for the ICT students. This popular course is now converted into a PG Diploma Chemical Technology Management to give Ph.D. research students and industry personnel, an orientation in business and technology management of chemical industry and to sharpen entrepreneurship skills.

The course covers topics such as Chemical Technology Management, Product/Process Design and Development, Finance Management, Marketing management, Intellectual Property Rights (IPR) and other laws, Communication, HRD, Project Management, Team and Organization Management.

The course is run with the assistance of the UDCT Alumni Association, with several alumni and other experts from within and outside ICT, having vast experience. This is a one and a half year programme conducted on Saturdays and Sundays. The course commences in January, every year and the admission procedure may commence from October, every year (see website [www.ictmumbai.edu.in](http://www.ictmumbai.edu.in)).

Type No.	ELIGIBILITY AND TYPE OF CANDIDATE	SEATS
1.	Candidates registered for Ph.D. (Tech.)/ Ph.D. (Sci.) in ICT, and have spent at least a year in their Ph.D. programme	10
2.	Candidates registered for Ph.D. (Tech.)/ Ph.D. (Sci.) in any other University/ Institute of repute, and have spent at least a year in their Ph.D. programme	10



Type No.	ELIGIBILITY AND TYPE OF CANDIDATE	SEATS
3.	Industry- sponsored candidates working for not less than 3 years, having Master's degree in Chemical Technology/ Chemical Engineering/ Science/ Pharmacy/ Mathematics or any other equivalent course	10

Admission will be conducted on the basis of written test and interview (equal weightage).

In case the candidates from a particular type are not available, the seats may be transferred to other type of candidature on the basis of merit. Fees once paid shall not be refunded.

The **Postgraduate Diploma in Chemical Technology Management** (30 seats) is meant for candidates registered for Doctoral degree from the ICT or other institutes/Universities as well as for industry personnel.

PG Diploma in Chemical Technology Management	
Ph.D.- Registered Candidates	Industry Sponsored Candidates
Rs. 20,000/-	Rs. 50,000/-

All Rights regarding the admissions at the ICT are reserved with the Vice Chancellor, ICT.

## 3.5 DOCTOR OF PHILOSOPHY (Ph.D.) PROGRAMMES

### 3.5.1 PROGRAMMES OF DOCTORAL STUDIES

As per the UGC directives the minimum period of Ph.D. shall be three years. Table 3.4.1 shows various doctoral programmes (by research) in various disciplines in Science and Technology. Apart from original research, all Ph. D. programmes have a course work component effective from September 2009.

TABLE 3.4.1: DOCTORAL DEGREE PROGRAMMES

No.	DEGREE	COURSE
1.	Ph. D. (Tech.) in Technology	Bioprocess Technology
2.		Chemical Engineering
3.		Speciality Chemical Technology
4.		Fibres and Textile Processing Technology
5.		Food Biotechnology
6.		Food Engineering and Technology
7.		Green Technology
8.		Oils, Oleochemicals and Surfactants Technology
9.		Perfumery and Flavour Technology
10.		Pharmacy <sup>@</sup>
11.		Pharmaceutical Technology
12.		Polymer Engineering and Technology
13.		Surface Coating Technology
14.		Plastic Engineering
15.		Civil Engineering
16.		Electrical Engineering
17.		Electronics Engineering
18.		Mechanical Engineering

19	Ph. D. (Sci.)	Biochemistry
20.		Biotechnology
21.		Chemistry
22.		Food Science
23.		Mathematics
24.		Physics
25.		Textile Chemistry
26.	Ph. D. (Tech.)	Petrochemical Engineering

**Intake Capacity:** There is no prescribed intake capacity for any of the Doctoral Programmes/ branches since the number of available fellowships and the requirement by the research supervisors varies every year. Several research projects, either funded by various government agencies or private industries, have provisions for fellowships.

**Ph.D. (Tech) in Pharmacy** is offered in four different branches:

(i) Pharmaceutics, (ii) Pharmaceutical Chemistry, (iii) Pharmacology and (iv) Pharmacognosy. Separate written tests will be conducted for each of the above branches. Candidates may appear for written tests in one or more of these and a separate merit list will be prepared for each.

Candidates admitted to Ph.D. (Tech.) in Technology (**Sr. No. 1 - 13**) conduct research under the recognized faculty from the Department of Chemical Engineering, all Departments of Chemical Technology, DBT-ICT Centre for Energy Bio-sciences and ICT-DAE Centre for Chemical Engineering Education and Research.

Candidates admitted to Ph.D. (Tech.) in Technology **Sr. No. 15-19** conduct research under the recognized faculty from the Department of General Engineering.

There will be combined entrance test for (**Sr. No. 21**) and Ph. D. (Sci.) (Biochemistry) in Biochemistry (**Sr. No. 20**). Shortlisted Candidates will be eligible for admission to Ph.D. Science Biotechnology (**Sr No. 21**) and Ph. D. (Sci.) (Biochemistry) depending upon availability of fellowship.

Candidates admitted to Ph. D. (Sci.) in Food Science (**Sr. No.23**) conduct research under the recognized faculty from the Department of Food Engineering and Technology. [See Section 3.4.3.1]

Candidates admitted to Ph. D. (Sci.) in Mathematics (**Sr. No. 24**) conduct research under the recognized faculty from the Department of Mathematics.

Candidates admitted to Ph. D. (Sci.) in Physics (**Sr. No. 25**) conduct research under the recognized faculty from the Department of Physics.

Candidates admitted to Ph. D. (Sci.) in Textile Chemistry (**Sr. No. 26**) conduct research under the recognized faculty from the Department of Fibres and Textile Processing Technology. [See Section 3.4.3.1]

**Note:** A Single form has to be filled for Ph. D. (Sci.) (Biotechnology) (**Sr. No.21**) and Ph. D. (Sci.) (Biochemistry) (**Sr. No.20**). Candidates should mention Biotechnology/ Biochemistry on the Form.

### 3.5.2 FELLOWSHIPS FOR DOCTORAL PROGRAMMES

Candidates receiving fellowships from any source and doing Ph.D. are required to work for 8 hrs/week to carry out administrative, supervisory and teaching assistantship as directed by Guide, Head of the Department and Institute Authorities.

#### 4.4.2.1 INSPIRE FELLOWSHIP FROM DEPARTMENT OF SCIENCE AND TECHNOLOGY (GOI)

First Rank holders in Bachelor's degree or Master's degree in Engineering/ Technology/ Pharmacy/Science of any UGC/ AICTE recognized Indian University or Institute/ Statutory Body in India can apply for award of INSPIRE FELLOWSHIP, a scheme of the Government of India to avail research grants for a period of five years for doing research leading to Ph.D. degree. The Bachelor's degree holders with INSPIRE FELLOWSHIP need to register for Integrated Ph.D. degree from the beginning of the research. Application format and necessary documents for application are available on the website <https://online-inspire.gov.in/> Eligible candidates should apply directly to DST and after getting provisional acceptance, they may be considered for admission at ICT, subject to fulfillment of other criteria.

### 3.5.3 ELIGIBILITY CRITERIA FOR THE ADMISSIONS:

#### 4.4.3.1 (A) ELIGIBILITY CRITERIA FOR ADMISSION TO Ph. D. (Tech.)/Ph. D. (Sci.)

For **Ph. D. (Tech.)** Programme at Sr. No. 1 in Table 3.4.1 must have passed

- i) Bachelor degree (12+4) in Engineering/Technology/Pharmacy or equivalent thereto AND
- ii) Master's degree examination in the Chemical Engineering/Bioprocess Technology/ Chemical Technology (any branch at ICT)/Pharmacy/ Biotechnology/ Biochemical Engineering/ or any other UGC recognized university as equivalent there to with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved category).
- iii) From the academic year 2022-23, ICT is following the rule of having 60% or 6.5 out of 10 GPA at both Bachelor's and Master's levels while admitting doctoral students. CSIR or any other national level JRF will get relaxation of 5%.

For **Ph.D. (Tech.)** course at Sr. No. 2 in Table 3.4.1, the candidate must have passed the Master's degree examination in the Chemical Engineering/ Chemical Technology (any branch at ICT)/ Pharmacy/ Plastic Engineering of ICT/ [(M.E in Petrochemical Engineering/ Environmental Engineering) (Provided Bachelor Degree in Chemical Engineering)] or any other UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved category). iii) From the academic year 2022-23, ICT will follow the rule of having 60% or 6.5 out of 10 GPA at both Bachelor's and Mater's levels while admitting doctoral students. CSIR or any other national level JRF will get relaxation of 5%.

For **Ph.D. (Tech.)** courses at Sr. No. 3, 4 and 7 -14 in Table 3.4.1, the candidate must have passed the Master's degree examination in the Chemical Engineering/ Chemical Technology (any branch at ICT)/ Pharmacy/ Plastic Engineering of ICT or any other UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved category).

For **Ph.D. (Tech.)** Programmes at Sr. No. 5 in Table 3.4.1 must have passed the

- i) Bachelor's degree (12+4) in Food Engineering and Technology or Biotechnology/ Food Biotechnology of any UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved category) AND
- ii) Master's degree in Food Engineering and Technology/ Food Technology/ Biotechnology/ Food Biotechnology/ Food and Biochemical Engineering/ Chemical Technology (any branch at ICT)/ Chemical Engineering of any UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA 55% marks or equivalent CGPA in case of reserved category.

For **Ph.D. (Tech.)** Programmes at Sr. No. 6 in Table 3.4.1 must have passed the

- i) Bachelor's Programmes (12+4) in Food Engineering and Technology or equivalent thereto AND



- ii) Master's degree in Food Engineering/ Food Technology/ Food and Biochemical Engineering/ Chemical Technology (any branch at ICT)/ Chemical Engineering of any UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA 55% marks or equivalent CGPA in case of reserved category

For **Ph.D. (Tech.)** Programmes at **Sr. No. 15-18** in Table 3.4.1, the candidate must have passed the Master's degree examination from any UGC recognized university as equivalent thereto with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved categorie).

Plastic Engineering/Material Science/ Civil/ Structural/ Environmental/ Civil and Water management/ Transportation Engineering/ Construction/ Construction Management/ Geotechnical/ Water Resources/ Electrical Engg/ Power Systems/ Control Systems/ Instrumentation and Control/ Power Electronics/ Electrical Machines and Drives/ Power and Energy systems/ Electronics/ Micro Electronics/ VLSI Design/ Embedded systems/ Electronics and Communication/ Mechanical/ Production/ Industrial/ Thermal/ Machine Design/ Machine Tols/ Automobile

For **Ph. D. (Sci.)** Programmes at **Sr. No. 20 and 21** in Table 3.4.1, the candidate must have passed the Master's degree examination in any biological faculty of science of any university recognized by UGC with minimum of 55% marks or equivalent CGPA (50% MARKS OR EQUIVALENT CGPA in case of reserved category)

For **Ph.D. (Sci.)** Programmes at **Sr. No. 22, 24 and 25** in Table 3.4.1, the candidate must have passed the Master's degree examination in the respective Subject of any University recognized by UGC with minimum of 55% marks or equivalent CGPA (50% marks or equivalent CGPA in case of reserved category).

For **Ph.D. (Sci.)** Programmes at **Sr. No. 23** in Table 3.4.1, in Food Science the candidate must have passed the M. Sc examination in Food Science, Food Processing, Nutrition, Home Science, Post harvest Technology, Horticulture, Dairy Science, Biochemistry, Microbiology, Organic Chemistry of any UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved category).

For **Ph.D. (Sci.)** Programme at **Sr. No. 25** in Table 3.4.1, in Textile Chemistry, the candidate must have passed the M. Sc. examination in Textile Chemistry/ Textile Clothing/ Life Sciences/ Biochemistry/ Microbiology/ Chemistry of ICT or of any University recognized by UGC with minimum of 55% marks or equivalent CGPA (50 % marks or equivalent CGPA in case of reserved category).

For **Ph.D. (Tech.)** Programmes at **Sr. No. 26** in Table 3.4.1, the candidate must have passed the Master's degree examination in the Chemical Engineering / Chemical Technology (any branch at ICT)/ Plastic Engineering of ICT/ [(M.E in Petrochemical Engineering) (Provided Bachelor Degree in Chemical Engineering)] or any other UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved category).

The candidates who have passed the Master's degree by Research of any University recognized by UGC may be considered for admission only if they hold fellowship from any recognized funding agency.

In addition, the candidates must undergo institutional written test and interview to qualify for admission through merit.

The candidates qualified in National Level Qualifying Examinations, as per UGC Guidelines, or other equivalent examinations and holding valid fellowship will be preferred.

**Apart from regular full time on- campus candidates, following candidates are also eligible for admission to Ph.D. (Tech.)/ Ph.D. (Sci.):**

- (i) Permanent full time teachers of College/ Institute (See 3.4.3.1.B for details)
- (ii) Employees of National laboratories/ Government Institutions (See 3.4.3.1.C for details)

(iii) Employees of Industry (See 3.4.3.1.D for details)

**NOTE: The selection of all the candidates for Ph.D. (Tech.) shall be based on the score in the qualifying examination and interview conducted by the Institute. The entrance examination score conducted by ICT will remain valid for two academic years. The academic year in which the candidate had appeared for entrance examination and the next academic year.**

The exemption from ICT Entrance Test for admission to Ph.D. programmes will be as per the UGC Guidelines issued from time to time. The relevant information can be found on ICT website ([www.ictmumbai.edu.in](http://www.ictmumbai.edu.in)) throughout the academic year 2025-26.

### 3.5.3.1 (B) ELIGIBILITY CRITERIA FOR TEACHERS FOR ADMISSION TO Ph. D. (Tech.)/ Ph. D. (Sci.)

Following are the requirements in addition to the criteria mentioned under heading 3.4.3.1. A above.

- a) The candidate should be a permanent teacher having full time teaching experience of at least two years in Degree College or five years in Junior college/ Diploma College/ Polytechnics (affiliated to statutory bodies). Candidate will have to submit No Objection Certificate from respective college/institute . Please see **ANNEXURE 1**
- b) Teachers who have been in the service of any Engineering and Technology College approved by the UGC/AICTE are entitled for registration for Ph. D. (Tech.) with the faculty of the ICT.
- c) Teachers who have been in the service of any Science College approved by the UGC are entitled for registration for Ph. D. (Sci.) with the faculty of the ICT.
- d) The college management should undertake the responsibility of releasing the candidate for course work, experimental work or discussions with the concerned research guide from time to time. A proper time table should be prepared by the concerned teacher and his supervisor, which will be approved by the Head of Department/ Centre Co-ordinator. A bond in this regard should be signed and approved by the Vice Chancellor, ICT.
- e) Teachers can work in the ICT laboratories during vacations and holidays and after their office hours if they come from colleges in the city or nearby. They must indicate on which date they will avail of the research facilities in ICT. A proper log book must be maintained by the candidate duly signed by his supervisor which will be authenticated by the Head of Department/ Centre Co-ordinator.
- f) A maximum period of 5 years extendable by 1 year will be allowed in case of teachers who carry out research part time but put in at least 3 months full time work in a year in the ICT labs. In such cases, part of the experimental work could be allowed to be done in their premises for which their management will provide them with necessary facilities. The characterization and other sophisticated analysis must be done in ICT. Exclusive theoretical work should be discouraged as much as possible to give the teachers a hands-on experience and to bring them into an environment of research. However, this will be left to the individual supervisor's discretion, who should take abundant precaution to avoid unethical practices.
- g) The registered candidates will be required to publish or patent some part of their work within two years of the registration otherwise this registration will not be continued. The publication must be done in peer reviewed international journals. Multi-authored papers without much input from the teacher should be avoided. Conference proceedings which are not peer reviewed will not be considered as publications.
- h) Teachers registering themselves as Ph.D. student of ICT should not register any Masters students with themselves in his/her own college to avoid research by proxy. The candidate as well as his/her supervisor must give an undertaking, with a counter signature of the concerned principal to this effect to avoid degeneration of this novel concept into a Ph.D.

by unscrupulous means.

- i) If the teacher intends to join the ICT on leave without pay for a period of three years, then the candidate may be eligible for the UGC fellowship under our SAP programme, provided he/ she successfully clears the Institutional entrance tests.
- j) All regular admissions criteria are applicable to these candidates and they must also do the course work required for Ph.D. programme.
- k) The candidates will have to submit affidavit as given in **ANNEXURE 2**

### **3.5.3.1 (C) ELIGIBILITY CRITERIA FOR CANDIDATES WORKING IN NATIONAL LABORATORIES/ GOVERNMENT INSTITUTIONS FOR ADMISSION TO Ph. D. (Tech.)/ Ph. D. (Sci.)**

Following are the requirements in addition to the criteria mentioned under heading 3.4.3.1. A above. Ph.D. candidate sponsored by industry should have total industrial experience of minimum two years after completion of Master's degree with GPA more than 7.

- a) The candidate should be a permanent employee working in National Laboratories/ Government Institutions having minimum 2 years of service. Candidate will have to submit No Objection Certificate from respective laboratory or government institution . Please see **ANNEXURE 1**
- b) The management of the organisation should undertake the responsibility of releasing the candidate for course work, experimental work or discussions with the concerned research guide from time to time. A proper time table should be prepared by the concerned candidate and his supervisor, which will be approved by the Head of Department/ Centre Co-ordinator. A bond in this regard should be signed and approved by the Vice Chancellor, ICT.
- c) Such candidates can work in the ICT laboratories during vacations and holidays and after their office hours if they come from organisation in the city or nearby. They must indicate on which date they will avail of the research facilities in ICT. A proper log book must be maintained by the candidate duly signed by his supervisor which will be authenticated by the Head of Department/ Centre Co-ordinator.
- d) The registered candidates will be required to publish or patent some part of their work within two years of the registration otherwise this registration will not be continued. The publication must be done in peer reviewed international journals. Multi-authored papers without much input from the teacher should be avoided. Conference proceedings which are not peer reviewed will not be considered as publications.
- e) All regular admissions criteria are applicable to these candidates and they must also do the course work required for Doctoral programme.
- f) The candidates will have to submit affidavit as given in **ANNEXURE 4**

### **3.5.3.1 (D) ADMISSION FOR INDUSTRY -SPONSORED IN-HOUSE CANDIDATES TO Ph.D. (Tech.)/ Ph.D. (Sci.)**

Following are the requirements in addition to the criteria mentioned under heading 3.4.3.1. A above.

Total industrial experience of minimum two years after his/her master's with GPA more than 7. It is not necessary that the experience is from the same industry who is sponsoring the candidate. However it should be an approved research laboratory as per ICT's procedure. Such candidate should be selected based on ICT's entrance test in the respective subject.

1. The candidate should have minimum 2 years of industrial experience. The candidate will have to submit No Objection Certificate from respective organisation. Please see



### ANNEXURE-1

2. Industry should have a well-equipped Research and Development and Quality Control laboratory with at least one Ph.D. employee working in the set up in the relevant area.
3. Industry is required to get recognition from ICT by the following procedure:
  - i. After receiving request from an industry, a Committee appointed by the Vice Chancellor, ICT will make a visit to the industry laboratory. The ICT appointed Committee will consist of Dean (RCRM) as Chairman with a Professor nominated by the Vice Chancellor and the Head of the Department in the area of proposed research.
  - ii. The committee will evaluate the activities and the competence of the R and D of industry following the guidelines of similar to those proposed by DSIR. All the expenses in connection with the visit will be borne by the industry concerned. The ICT committee will make recommendations to the Vice Chancellor, ICT for approval. The industry R and D will be recognized by the approval of the Vice Chancellor, ICT. In case the laboratory is already recognized by DSIR, the visit by ICT committee will not be necessary.
  - iii. Once the R and D laboratory is recognized by the ICT, the industry is required to pay Rs. 5 lakhs for first four years (typical duration of Ph.D. work) and necessary contingency amount of Rs. 50,000/- per candidate per year (in the name of ICT, to be utilized by the Research Guide) for the conduction of the research activity. After four years, the renewal of the recognition will continue by payment of Rs. 1 lakh per year. Further, the industry should try to get recognition for their R and D set up from DSIR, based on the recommendation of the ICT appointed Committee.
4. During a year, an industry may nominate up to two employees (with required qualification) for registering for the doctoral degree at ICT under the supervision of ICT faculty.
5. The candidate is required to pay all the Ph.D. fees (over and above laboratory eligibility fees) as proposed by the ICT at appropriate time and will not be eligible for any fellowship. Also, the other requirements, like eligibility criteria, qualifying institutional tests (score is valid for two years for Industry -sponsored candidates), completion of course work, etc. need to be fulfilled by the industry candidate.
6. The candidates will have to submit affidavit as given in ANNEXURE 3

#### 3.5.3.1(E) RULES AND ELIGIBILITY CRITERIA FOR ADMISSION TO DIRECT Ph.D. (Tech.)

Institute of Chemical Technology (ICT) has a proven track record in training high quality manpower and in conducting research in Chemical Engineering, Chemical Technology, Pharmacy and Allied sciences. In view of the need of attracting talented graduates to Research career in Engineering and Technology, and for enhancing the number of quality Ph.D.s, ICT has initiated a programme of Direct Ph.D. (Tech.) in Chemical Engineering, Chemical Technology. This programme is not available for Direct Ph. D. (Tech.) in Pharmacy.

The Direct Ph.D. (Tech.) Degree Programme is designed to identify candidates with strong potential for a career in Research and to Develop Human resources for the India's future needs in Chemical Engineering and Chemical Technology. The programme has the following objectives:

- (i) To provide avenues for Doctoral degrees to candidates with talent and aptitude for carrying out advanced research and development activities in Technology.
- (ii) To furnish a multidisciplinary, flexible and innovative Doctoral research programme with special emphasis on
  - (a) Acquisition of proficiency in research, knowledge, data generation and analysis, mathematical modelling, and management with sharpening skills in innovative

- experimental methods and problem-solving capabilities.
- (b) Creation of a pool of young talented, dedicated and committed individuals with passion and involvement in pursuing research and development as a career.
- (c) Inculcation of attitude, temper and outlook for developing social commitment as well as high level of scientific ethics and integrity.
- (iii) To disseminate the new knowledge in the form of publications, patents, theses, seminars and conferences. Efforts will also be made to help the society and the industry and hence the economy of the country.

#### **Selection of Candidates:**

- i. The candidate, applying for the Direct Ph.D. (Tech.) programme, must have a Bachelor's degree in Chemical Engineering or Chemical Technology with more than 65% marks or equivalent CGPA (60% marks or equivalent CGPA for candidates from reserved category) of ICT or from any accredited or AICTE recognized Engineering and Technology Institute. A valid GATE score is mandatory.

#### **Selection Process:**

- i. The candidates will be selected on the basis of an Institute level written test and an Interview.
- ii. The candidate must score a minimum of 50% in the written examination of the Institute to qualify for the interview.
- iii. The selection of the candidates shall be strictly on merit and on the basis of performance in the written test and interview conducted by the ICT.
- iv. The list of qualifying candidates will be prepared on the basis of marks in written test and Interviews in 70:30 ratio.

#### **Course Work and Registration for Direct Ph.D. (Tech.):**

- a) The registration of the candidate of Direct Ph.D. (Tech.) shall be initially for Master's degree in the same discipline until he/she completes the Course work.
- b) If CGPA of 7 is not achieved, the candidate will have to reappear for the exam. This is applicable for candidates admitted directly to the program and receiving NDF, national doctoral fellowship. Students will get the both degrees, master's as well as Ph.D. after completion of Ph.D. The candidates will have to complete the course work of Master's degree in the same discipline with a minimum CGPA of 7.0 before change of registration to Ph.D. (Tech.) degree. Since the programme has an objective of developing best human resources in Research, it is essential that the selection of the candidates is done with utmost care. They are also emphasized about successful completion of the course work.
- c) The candidate may be permitted to carry the credits of equivalent course, work of at least two semesters, if it is completed in IITs/NITs/HBNI, or any other reputed Government/AICTE recognized Institution that has signed an MoU with ICT for transfer of credits, provided as the course work is certified by the competent authority of that Institution. Such candidates may be exempted from taking the respective course work required for the Ph.D. (Tech.) programme. These candidates should be encouraged to take 4 audit courses related to their own research topic.
- d) Direct Ph.D. (Tech.) candidates shall first register for Master's degree and only after successful completion of course work for Master's and in the month of April of second year their registration will be changed to Doctoral degree. The certificate for completion of course work will be mandatory for this.
- e) The Registration and review of progress of these candidates will follow the same procedures as for other Ph.D. (Tech.) candidates registered in the Institute.
- f) Any candidate who completes the course work as specified above and completes minimum

of 1 year of Research project will be awarded the Master's degree in respective discipline, if he/she wishes to discontinue further research or fails to acquire requisite CGPA of 7.0 in Master's programme.

- g) Candidate having poor performance in the Master's course work (as given above) will not be registered for Ph.D. (Tech.) degree and may be allowed to submit a thesis on the basis of one year of research work to get Master's degree.
- h) On successful completion of the entire programme the candidate will be awarded both the degrees, respective Master's and Ph.D. (Tech.)(Dual Degree) at the end of the programme.
- i) Direct Ph.D. (Tech.) INSPIRE fellows will be given master's fellowship till 31<sup>st</sup> March of the second year. They will be given Provisional master's degree certificate to become eligible for the Ph.D. (Tech.) fellowship from April, 01 of the second year.

#### **Course Work for Ph.D. (Tech.)/ Ph.D. (Sci.):**

As per the UGC directives and the Ph.D. reforms initiated at ICT, following are the rules governing the course work for a Ph.D. degree programme:

1. All candidates registered at ICT for the Ph.D. degree will have to complete the requisite course work, preferably within the 1st year of Ph.D. Program.
2. Every Ph.D. candidate is required to complete course work of 18 credits from post graduate level courses. It includes mandatory 4 credit course in research methodology and a 2 credit course in research and publication ethics.
4. All the course work must be completed before submission of synopsis for the thesis.
5. The selection of the credit courses will be by mutual consultation between the Candidate and the Research Supervisor.
6. The candidate can select any courses offered by ICT that he/ she had not undergone earlier at ICT or elsewhere, either as credit courses by filling up appropriate form.
7. The candidate may choose to take the courses at Institute(s) other than ICT, provided there is an MOU signed between the Institute and ICT for transfer of credits.
8. The candidate may take online MOOC courses with specific prior approval from research guide and Dean, Academic Programmes by filling up the appropriate form.

### **3.5.4 APPLICATION PROCEDURE FOR Ph.D. PROGRAMMES**

For admissions at the ICT for any of the Ph.D. courses, a candidate should apply online for admission applications. (website <http://ictmumbai.edu.in>). Click on Apply online for Admission 2025-26.

#### **3.5.4.1 ONLINE APPLICATION :**

**To Fill the online application form below steps are required:**

##### **Step: 1 » Personal Information**

Date of birth, Mobile No, Address, Caste, Category Details, Scanned colour Photo (Must be less than 40 kb, format-.jpg/.jpeg).

##### **Step: 2 » Education details starting Xth, XIIth/ Diploma, Graduation (if applicable)**

Carefully select between options of Percent System or Grade System

Year of Passing of each degree should be carefully specified

Board of Examination decides the normalization factor, so specify correctly

##### **Step: 3 » Entrance Exam Details**

Select entrance exam in which you will appear

Enter Application Id, Mobile Number, Roll No, Enter Grade/ Percentage/ Percentile/ score/ Rank correctly

##### **Step: 4 and 5 » Upload Scanned Documents**



All mark sheets and certificates

Category/ caste document, migration, domicile certificate etc.

#### **Step: 6 » Payment details for admission form**

You can pay application form fee with online mode by using Credit/ Debit card or by Net Banking only.

After submitting the form, students can take a print of application form for their reference.

The candidate shall fill the appropriate application form/s, separate for each course of choice.

All the relevant entries in the application form must be completed. Incomplete forms will be rejected and no correspondence will be made in this regard.

**Writing contact details such as permanent address, address for correspondence, Mobile No./ Telephone No./ and email address in the application form is essential. Do not leave any space blank.**

The duly filled form along with ATTESTED PHOTOCOPIES of required certificates to substantiate the claims made in their application form should be submitted online. The Admission application fees once paid is non-refundable and non-transferable under any circumstances.

Incomplete applications shall be rejected without entering into any correspondence with the applicant.

The candidates seeking admission at the ICT must submit ATTESTED PHOTOCOPIES of all the documents as given in Table 3.4.4.3 below along with the application form.

Attachment of any certificates will not be accepted separately after submission of the application form.

The candidates belonging to the reserved categories will be required to submit The Caste Certificate, the Caste/ Tribe Validity Certificate as applicable at the time of submitting the application form, failing which the category claimed, will not be granted and the candidate will be treated as a General candidate.

The candidates shall not attach a copy of any other certificate which is not asked for, such as certificates for participation in sports, cultural activities, etc.

If the candidate produces any certificate, which is not in Marathi, Hindi or English language, authenticated Marathi, Hindi or English version of the same, duly attested by a Gazetted Officer shall also be produced.

For admissions at the ICT for all the Ph.D. Programmes, a candidate should fill appropriate application form(s) for the course to which he/she is seeking admission.

(Refer time schedule for each of the following stages displayed on ICT Notice Board and website [www.ictmumbai.edu.in](http://www.ictmumbai.edu.in)).

**TABLE 3.5.4.3: DOCUMENTS TO BE ATTACHED WITH THE APPLICATION FORM FOR Ph.D. ADMISSIONS**

Sr. No.	Type of Candidate	Attested true copies of documents to be attached along with application form
I	All Candidates	1. SSC (Std. X) marksheet
		2. HSC/HSSC (Std. XII) marksheet
		3. All marksheets of Bachelor's Course
		4. Bachelor's degree certificate
		5. All marksheets of Master's Course
		6. Master's degree certificate
		7. (College Leaving / Transfer certificate) AND Migration Certificate

Sr. No.	Type of Candidate	Attested true copies of documents to be attached along with application form
		8. Gap certificate
II	Backward class Candidates belonging to SC/ ST Categories	Caste certificate, Caste/ Tribe Validity certificate, as applicable. (In addition to the documents mentioned in Sr. No. I)
III	Backward class Candidates belonging to VJ/ DT (NT(A))/ NT(B)/ NT(C)/ NT(D)/OBC/ SBC categories (Maharashtra State candidates only)	Caste certificate, Caste/ Tribe Validity certificate, Non Creamy Layer Certificate valid up to 31 <sup>st</sup> March 2025. (In addition to the documents mentioned in Sr. No. I)
IV	Backward Class Candidates belonging to OBC Category	Caste Certificate issued by Central Government

Candidates are requested to visit the institute website for a detail time table as well as updates for the same. List of the eligible candidates for written test will be displayed on the website. Only eligible candidates will be allowed to appear for the written exam. Depending upon the required number of candidates, institute reserves right to call specific number of candidates for interview. A merit list will be generated on the basis of written test.

### 3.5.5 RULES AND REGULATIONS ABOUT RESERVATION

Reservation in admission for SC/ST categories is applicable to all Ph.D. Programmes (all branches) as per the Maharashtra government norms (**APPLICABLE FOR WRITTEN TEST ONLY.**)

#### 3.5.5.1 CASTE CERTIFICATE AND CASTE/ TRIBE VALIDITY CERTIFICATE.

- Caste Certificate: The candidates belonging to the backward class categories will be required to submit the Caste Certificate at the time of admission, failing which the category claimed will not be granted and the candidate will be treated as a General Candidate.
- Caste Validity Certificate: The candidates belonging to the SC/ST category will be required to submit the Caste/Tribe Validity Certificate at the time of admission, failing which the category claimed will not be granted and the candidate will be treated as a General Candidate.

### 3.5.6 FEES, CONCESSIONS, CANCELLATIONS AND REFUND

#### 3.5.6.1 FEES PRESCRIBED:

**Fee structure for Ph.D. Programmes at ICT for the academic year 2025-26**

Sr. No.	Details	Fee for 1 <sup>st</sup> Year (Rs.)
1.	Library Deposit	5,000/-
2.	Fees	51,250/-
3.	Other Fees	45,000/- (Including Contingency)
	TOTAL	1,01,250/-

Fees: Second Year Onwards Rs. 96,250/- p.a.

**\*Note: Contingency amount for Ph.D. Students admitted under various fellowships will be as per the norms of respective sponsoring funding agencies. These are only indicative figures and likely to be changed.**

**Notes :**

- For confirmation of seat allotted, all candidates have to submit Demand Draft/ Pay Order in favour of 'Institute of Chemical Technology, Mumbai', payable at Mumbai, of appropriate

values as shown in above TABLE.

- b) Hostel Fees shall be charged additionally in case of candidates opting for hostel accommodation (the details are given in Section on Hostels).
- c) Vide letters no. जा.क्रं./स.आ.स.क/मु.श./व्या.प.आ./अ.जा.फ़ि.स्कॉ/2015-16@5012 dated 17th August, 2015 received from Assistant Commissioner, Social Welfare Department, Mumbai city and जा.क्रं./सकआ/शिक्षण/रतंसं/2015-16 nwUo 2164 dated 11th August, 2015 received from Joint Director, Social Welfare Department, Pune, "All reserved category students for Master and Ph.D. who are getting any fellowship are not entitled to get Freeship/Scholarship from Government of Maharashtra."

### 3.5.6.2 LIBRARY DEPOSIT

Library deposit received from the students shall be refunded after successful completion of the course or after cancelling the admission, subject to producing Original Receipt. Unless there is any recovery, no deduction shall be made from the Library deposit. However, the amount of Library deposit shall be credited to institute, if the candidate does not apply for refund, within 3 complete financial years after the student actually leaves the institution; or, within 3 complete financial years after the date of successful completion of the programme, whichever is earlier.

### 3.5.6.3 REIMBURSEMENT OF TUITION FEE:

Candidates claiming concession under the categories of EBC and sons and daughters for teaching and non-teaching staff of primary, secondary and higher secondary schools shall pay entire fee as applicable at the time of admission and subsequently candidates have to apply to the respective authorities for reimbursement of tuition fees. The quantum of reimbursement received by the institute from the concerned authorities shall be disbursed to the candidate.

### 3.5.6.4 CANCELLATION OF ADMISSION AND REFUND OF FEES:

Refund of tuition fee, development and other fees after cancellation of admission secured at ICT. Candidate who has been admitted to ICT may cancel admission by submitting an application in duplicate, in the prescribed Pro forma - E and request for refund of fees. The refund of fees as applicable shall be made in due course of time. It is made clear that such application for cancellations will be considered if and only if the admission has been confirmed by paying the prescribed tuition fee and other fees in full and by submitting all the necessary original documents. Refund shall be made after deduction of cancellation charges as shown below -

Sr. No.	SITUATION	REFUND
1	Request received within 15 days from the Date of Admission	Entire fee less Rs.5000/-
2	Request received between 16-30 days from the Date of Admissio	Entire fee less one month fees

No refund after 30 days.

ALL RIGHTS REGARDING THE ADMISSIONS AT THE ICT ARE RESERVED WITH THE VICE CHANCELLOR, ICT.

## 3.6 CERTIFICATE COURSE IN SAFETY AND RISK MANAGEMENT

This course is designed for all post-graduate researchers in Engineering, Technology and Pharmacy in the Institute of Chemical Technology. It is also suitable for young professionals employed by the chemical and allied industries. It was started in 2015 for the benefit of the student community. Lectures are held in every semester on Saturdays only. Four eminent visiting faculty from industry /research / academia teach this course: Dr. L. M. Gantayet, Mr. Vijay Bhujle, Dr. S. A. Nadgouda and Prof. Kiran Kondabagil.



This course is subdivided into two levels: I (Basic) and II (Advanced). Basic Level I is mandatory in the first year, whereas Advanced Level II is optional. Students who score 80% or above in the Level I examination are eligible to study for Level 2.

At the Basic level, the topics taught are: Introduction to Safety and Risk Management; Material hazard - GHS MSD - physical hazard, toxic hazard and eco-toxicity; PSM elements; Hazard Evaluation Techniques – What-If, Checklist, HAZOP, FEMA; Hazard identification and assessment (Basic); Flammability and fire safety-extinguishers; SHE regulations in India-Factories act, water and environment act; Human elements in safety-behaviour safety; Laboratory safety; Basic OSH; Compliance to statutory safety audits; Biosafety.

Topics taught at the Advanced level are: Plant layout based on process safety & fire safety-fire hydrant system design; Management Practice in SHE in Plant Operation; Hazard assessment (Process safety, thermal safety, dust explosion); Safety in utilities; Storage, handling and transportation of hazardous substances; Environmental Impact Assessment; Emergency response plan. In the end, students will present a case study on relevant topics.

**Eligible students will be awarded certificates upon course completion.**

### 3.7 EXAMINATION PATTERN

#### 3.7.1 SEMESTER EXAMINATIONS

All the courses at Bachelor's and Master's level conform to the semester pattern and credit system.

##### SEMESTER EXAMINATIONS

All the courses at Bachelor's and Master's level conform to the semester pattern and credit system.

##### ATTENDANCE OF THE STUDENTS AND GRANTING OF TERM

The details on the attendance of the students and granting of term are listed in regulation R1 on the Institute's website. The attendance in lectures and practicals is considered semester-wise and subject-wise and no credit of attendance is carried forward. The minimum attendance necessary for granting a term (semester) in each subject shall be a minimum of 75% of the lectures and practicals, taken separately, out of the total number of lectures and practicals conducted in the semester. In case of any medical emergencies, waiver for attendance has to be applied to Dean Academic Programmes along with supporting document within one week of day of resuming the attendance.

##### CREDIT SYSTEM, MODE OF EVALUATION AND REPEAT EXAMINATIONS

The details of the credit system, mode of evaluation and repeat examinations are provided in regulation R9 on the Institute's website.

##### INTRODUCTION

The Institute implemented the credit system along with continuous assessment since it became a Deemed University in 2009. In general, a certain quantum of work is measured in terms of credits laid down as the requirement for a particular degree. The student acquires credits by passing courses every semester, the amount of credit associated with a course being dependent upon the number of hours of instruction per week in that course.

##### TYPE OF COURSE

There are mainly four types of courses in the Institute: (1) Type-I: Theory courses, (2) Type-II: Laboratory courses, (3) Type-III: Co-curricular activities (Yoga, NSS etc.), ability enhancement (communication skills, languages etc.), value enhancement courses etc. and (4) Type-IV: Experiential learning (field and community engagement projects

etc.), internships/on-job-training etc. Type-I courses consist of lecture (L) and tutorial (T) hours. Type-II and Type-III consist of practical (P) hours.

#### COURSE CREDITS

The number of credits (C) for a course is dependent on the number of contact hours of instruction in that course as follows: (1) 15 contact hours of Type-I course = 1 credit, (2) 30 contact hours of Type-II and Type-III courses = 1 credit, (3) at least one week of Type-IV courses = 1 credit. Credits will be assigned to In-plant training, Seminars, Projects, Co-Curricular Activities, and other mandatory course requirements also and these will be mentioned in the respective syllabi. The institute may also offer an additional few (3-5) mandatory Non-credit Courses as value-added courses.

#### EVALUATION

The in-semester evaluation comprises continuous assessment tests and mid-semester examination. The end-semester examination for B. Chem. Engg. / B. Pharm. / B. Tech. / M. Chem. Engg. / M. Pharm. / M. Tech. / M. E. (Plastic Engg.) / M.Sc. is held every year in December / January for the odd semester and April / May for the even semester.

#### REPEAT EXAMINATIONS

Repeat end semester examination is a special feature of the examinations at the Institute. It provides an avenue for the students who fail in the main semester examination.

#### GRACING OF MARKS

The details on gracing of marks are represented in regulation R10. The benefit of grace marks is not a right of the examinees. The benefit of grace marks is given to a student to pass the examination or to avail the provision of ATKT only. The concession of grace marks is given as a facility in difficulty for a small fraction of students and not as a liberal provision for a majority. The benefit of grace marks is given to the combined heads of passing.

#### UNFAIR MEANS RESORTED IN THE CONDUCT OF EXAMINATIONS

The relevant details are listed in regulation R16 on the Institute's website. Engaging in malpractices during examinations is a grave offense that undermines the integrity of the educational system as a whole, and the examination process in particular. It demonstrates a lack of respect towards the institution and discourages sincere students. Therefore, such instances are addressed firmly, and those involved face appropriate consequences. Penalties for individuals found guilty of malpractices are severe enough to act as a deterrent for others. This includes disciplinary measures such as suspension or expulsion, and in serious cases, legal repercussions. The Institute firmly addresses malpractices to uphold the credibility and fairness of our educational system and ensure that students are evaluated based on their genuine abilities and efforts.

### 3.8 ELIGIBILITY, ENROLLMENT AND TRANSFER/ LEAVING/ MIGRATION CERTIFICATES

(Applicable only to the candidates who have been offered seats)

#### 3.8.1 TRANSFER CERTIFICATE

A student admitted to the ICT is required to submit within a month from the commencement of the term, a Transfer Certificate/ Leaving Certificate/ Migration Certificate from the Principal of the College last attended by him/ her.

#### 3.8.2 PROVISIONAL STATEMENT OF ELIGIBILITY

No student from other University/ Board can be admitted to any of the ICT courses without submission of a “Provisional Statement of Eligibility” to be procured from the ICT office. An application for a provisional statement of eligibility may be made only when a student is informed that he/ she is allotted a seat in the ICT. However, candidates should keep all the necessary documents, such as statement of marks, passing certificate, migration certificate, etc., ready for obtaining the provisional statement of eligibility. The provisional eligibility will be confirmed only after due verification of the statement of marks and passing certificate from the candidate's parent University/ Board. The charges levied by the parent University of the Student for this purpose will have to be borne by the concerned candidate. The information regarding equivalence of examinations may be obtained from the Assistant Registrar (Academic) of the ICT.

### IMPORTANT INSTRUCTIONS

The ICT does not recognize degrees from overseas Universities/ Boards, on a regular basis. However, candidates desirous of seeking admission to the ICT, on the basis of qualifications obtained in overseas Universities/Boards may be considered for the admission on the merits of each individual case. For this purpose, passing certificates, transcripts of record and a copy of the syllabus, containing the details of the courses of studies pursued in the various subjects at the examination passed by the applicant (duly countersigned by the High Commissioner of India in the country or the officer authorized by him) and standard of passing laid down at the examination should be forwarded to the office well in advance. In case the certificates or transcripts are in a language other than English, these certificates and the English translation of the same, duly certified by a competent authority, should be sent. The candidate should enclose all the permissions stipulated by the concerned Government Departments.

### 3.8.3 ENROLLMENT CERTIFICATE

The students admitted after passing the XII standard (HSC/HSSC) Examination are required to submit to the ICT the duly filled in enrollment form, along with a copy of Statement of Marks and the prescribed fee at the time of admission. The enrollment form can be obtained from the office of the ICT.

## 3.9 ACADEMIC YEAR, CODE OF CONDUCT AND DISCIPLINE

### 3.9.1 COMMENCEMENT OF ACADEMIC YEAR\*

The date of commencement of the first semester of the academic year 2025-26 shall be as per academic calendar 2025-26.

The academic calendar for all the Bachelor's and Master's courses is divided into two semesters.

### 3.9.2 REQUIREMENT OF ATTENDANCE

The attention of the students is drawn to the Regulation R-1 regarding the attendance of the student and Grant of Term. Biometric attendance system is adopted for all classrooms and lectures are recorded. An auto-generated message is sent to the student and his/her registered parent/guardian at 9.00 pm if the student has missed any lecture. Thus, a record is available to ICT authorities on real time basis.

As per R-1(2), the minimum attendance necessary for granting a term (Semester) in each subject shall be minimum of 75% of the lectures and practicals, taken separately, out of the total number of lectures and practicals conducted in a semester. The students shall be deemed to have submitted the undertaking about the attendance after the admission has been secured at the ICT.

**Note:** Students are supposed to inform concern HOD, Dean (AP) and CoE, about their leave and the reason for absentee by letter or email. In case of illness student is suppose to inform authorities with in the first three days of illness (via email) and submit final medical certificate after joining the institute.



### 3.9.4 IDENTITY CARD

At the beginning of each academic year, a regular bonafide student is issued a smart Identity Card with his/her latest photograph printed it, on payment of the necessary charges. The students must wear the I-card while on campus. I-card is also necessary for appearing at all tests and examinations. If a student leaves the course halfway, after taking admission, he/she must surrender the I-Card in the Academic office.

### 3.9.5 WORKING HOURS

- (a) Academic Timings: The academic working hours of the institute are between 8.30 a.m. to 5.30 p.m., with lunch break from 12.35 to 1.30 p.m.
- (b) Office Hours:  
10.30 a.m. to 6.00 p.m., with lunch break from 1.15 to 1.45 p.m. - on all working days. Cash Counter: 11.00 a.m. to 1.15 p.m. and 1.45 p.m. to 4.00 p.m.

The office will remain closed on second and fourth Saturdays of a month, in addition to Sundays and public holidays.

### 3.9.6 GENERAL

The medium of instruction for all courses is English.

Physical fitness: The Vice Chancellor at his discretion may refer any candidate to the appropriate medical authority for ascertaining the physical fitness of the candidate to undergo the requirements of the course. The report of medical authority and the action taken by the Vice Chancellor shall be submitted to the Regional Head of Technical Education for information. It is to be noted that physically handicapped candidates are not provided with any additional facilities as far as the academic activities pertaining to the course is concerned.

The Vice Chancellor may verify the antecedents of any candidate through the appropriate police authority. The report received from police authority and the action taken by the Vice Chancellor shall be submitted to the Regional Head of Technical Education for information.

Not with standing anything contained in these Rules, if the Govt./ Institute takes any policy decision pertaining to F.Y. admissions, the same shall be brought in to effect at that point of time.

### 3.9.7 CONDUCT AND DISCIPLINE FOR ALL STUDENTS:

Students while studying at ICT, if found indulging in any anti-national activity contrary to the provisions of Acts and Laws enforced by Government or in any activity contrary to Rules of discipline, will be liable to be expelled from the Institute without any notice by the Vice Chancellor of the Institute.

Action against ragging: Maharashtra Prohibition of Ragging Act 1999 which is in effect from 15th May 1999 has the following provisions for Action against Ragging.

- a) Ragging within or outside of any educational institution is prohibited,
- b) Whosoever directly or indirectly commits, participates in, or propagates ragging within or outside any educational institution shall, on conviction, be punished with imprisonment for a term up to 2 years and/ or penalty, which may extend to ten thousand rupees.
- c) Any student convicted of an offence of ragging shall be dismissed from the educational institution and such student shall not be admitted in any other educational institution for a period of five years from the date of order of such dismissal.
- d) Whenever any student or, as the case may be, the parent or guardian or a teacher of an educational institution complains, in writing, of ragging to the head of the educational institution, the head of the educational institution shall, without prejudice to the foregoing provisions, within seven days of the receipt of the complaint, enquire into the matter mentioned in the complaint and if, prima facie, it is found true, suspend the student who is accused of the offence, and shall, immediately forward the complaint to the police station having jurisdiction over the area in which the educational institution is situated, for further action. Where, on enquiry by the head of the educational institution, it is found that there is no substance, prima facie,

in the complaint received; he/ she shall intimate the fact, in writing, to the complainant. The decision of the head of the educational institution shall be final.

- e) If the head of the educational institution fails or neglects to act in the manner specified in section “d” above when a complaint of ragging is made, such person shall be deemed to have abetted the offence and shall, on conviction, be punished as provided for in section “b” above.

If any of the statement made in application form or any information supplied by the candidate in connection with his or her admission is later on at any time, found to be false or incorrect, his or her admission will be cancelled, fees forfeited and he or she may be expelled from the Institute by the Vice Chancellor.

**Note:** The orders issued by the Hon’ble Supreme Court/High Court/Government regarding Prohibition of Ragging Act, will be made applicable as and when issued. The same shall be binding on all concerned. **See detailed booklet appended in this Handbook.**

### 3.10 VARIOUS GOVERNMENT CONCESSIONS IN FEES AND THEIR REQUIREMENTS

Following are the category-wise/ concession-wise requirements to be fulfilled by the students at the time of admission to the ICT.

The various types of application forms will have to be procured by the students at the time of admission and the duly completed forms along with necessary documents **MUST BE SUBMITTED TO THE GENERAL OFFICE WITHIN FIFTEEN DAYS**, failing which, the ICT will not be held responsible for not getting the sanction of relevant concessions from the Govt.

#### A. Govt. of Maharashtra Freeship/ Govt. of India Scholarship

Reserved Category students from SC/ST/VJ/DT (A)/NT-B/NT-C/ NT-D/OBC/SBC can apply for Govt. of Maharashtra Freeship/ Govt. of India Scholarship.

#### RULES:

**Govt. of India Scholarship** - Annual Income limit for VJ/DT(A)/ NT-B/ NT-C/ NT-D/ OBC/ SBC students should be below Rs.1,50,000/- p.a. and for SC students below Rs. 2,50,000/- and for ST students below Rs.2,50,000/- p.a. to submit claim for Govt. of India Scholarship.

**Govt. of Maharashtra Freeship** - Annual Income limit for VJ/DT(A)/ NT-B/ NT-C/ NT-D/ OBC/ SBC students should be above Rs.1,00,000/- p.a. and for SC students above Rs. 2,00,000/- and for ST students above Rs.2,50,000/- p.a. to submit claim for Govt. of Maharashtra Freeship.

**All the rules issued by the Govt. will be applicable to Post Graduate Students with Fellowship have less/ no freeships.**

The Application Form should be filled up Online by the HSC/HSSC Board students. Such students should take out print of the filled form along with attested photocopies of the following documents and submit to the Academic Office (Scholarship section/Staff)). Students from other than HSC/ HSSC Board should fill up paper version of the application form.

- Income Certificate of the parents for year 2024-25.  
For Freeship - Income Certificate of the parents for year 2024-25 from Tehasildar OR latest Form 16 A of the parents obtained from the employer.  
AND  
\*Non Creamy Layer Certificate for the current year (Only for VJ/DT(A)/NT-B/NT-C/ NT-D/ OBC/SBC, Not for SC/ ST) - valid up to 31<sup>st</sup> March 2025. (\* N. A. for Scholarships)  
For Scholarship - Income Certificate of the parents for year 2025-26 from Tehasildar.
- For Fresh ST students other than Mumbai Board - Change of District Certificate (Zilla Badal Dakhala)
- Caste Certificate - signed by Special Executive Magistrate.
- Caste Validity Certificate
- Ration Card
- Mark sheet of the last annual examination passed.

7. Admission Fee receipt of 2025-26.
8. In case of GAP period in education GAP CERTIFICATE must be submitted.
9. Hosteller claiming Govt. of India Scholarship should submit Hostel Certificate for the academic year 2025-26.

**B. Hostel Allowance**

Reserved Category candidates of SC/ ST/ VJ-NT/ SBC categories, staying in Hostel and applying for Govt. of India Scholarship can apply for Hostel allowance online on E-Scholarship Website of Samaj Kalyan.

After admission to hostel, students should contact Academic Office.

The attested copies of the following documents should be attached with the Application Form.

1. Income Certificate of the parents for year 2023-24 from Tehasildar.
2. Caste Certificate - signed by Special Executive Magistrate.
3. Caste Validity Certificate.
4. Mark sheet of the last annual examination passed.
5. Admission Fee receipt of 2025-26.
6. Hostel Certificate and Hostel fee receipt for the academic year 2025-26.

**C. Govt. of Maharashtra Freeship to Sons and Daughters of Primary and Secondary School Teacher**

The Application Form, should be obtained from the Academic Office at the time of candidate's admission and attested photocopies of the following documents must be attached while submitting the claim form.

1. Service Certificate of parent should be countersigned by Education Inspector with Date of Retirement mentioned therein.
2. Ration Card.
3. Mark sheet of the last annual examination passed.
4. Admission Fee receipt for the academic year 2025-26.

**D. Freeship to Economically Backward Class (EBC) Students**

Income Limit for the EBC Students to claim this freeship is Rs. 1,00,000/- p.a.

The Application Form, should be obtained from the Academic Office at the time of candidate's admission and attested photocopies of the following documents must be attached while submitting the claim form.

1. Income Certificate of the parents for year 2025-26 from Tehasildar.
2. Ration Card.
3. Mark sheet of the last annual examination passed.
4. Admission Fee receipt for the academic year 2025-26.

**E. Freeship to Sons and Daughters of Ex-Servicemen**

The Application Form, should be obtained from the Academic Office at the time of candidate's admission and attested photocopies of the following documents must be attached while submitting the claim form.

1. Ex-Serviceman Certificate.
2. Ration Card.
3. Mark sheet of the last annual examination passed.
4. Admission Fee receipt for the academic year 2025-26.

**F. Merit-cum-Means Based Scholarship of Government of India**

Please visit <https://dte.maharashtra.gov.in/scholarship-for-students-of-minority-communities-pursuing-higher-and-professional-courses/> for relevant information. Contact Academic Office for further information and formalities.

**G. Government of Maharashtra Scholarship for the Minority Communities Students Pursuing Technical and Professional Education**

Please visit <https://dte.maharashtra.gov.in/scholarship-for-students-of-minority-communities-pursuing-higher-and-professional-courses/> for relevant information. Contact Academic Office for further information and formalities.





# ICT Mumbai - IndianOil Odisha Campus, Bhubaneswar





## MESSAGE FROM THE DIRECTOR



Greetings from the Institute of Chemical Technology, Indian Oil Odisha Campus, Bhubaneswar, one of the off campuses of Institute of Chemical Technology (then UDCT), Mumbai. The campus was started in 2018 with a unique programme, Integrated M. Tech. after 10+2 in Chemical Engineering as Major and Minor in six different branches of Chemical Technology. From this campus, we also offer M. Tech. programme (Two Years) in various branches of Chemical Technology and Ph. D. in Science/Technology. In view of the massive investment in energy, petrochemicals, chemicals, polymers, textiles, minerals, materials, biotechnology and pharmaceutical industries and food industries in Odisha, ICT Mumbai was requested to open a campus

in Bhubaneswar. Indian Oil Corporation Ltd took a historic decision to support fully a campus of ICT in Bhubaneswar. This is the first of its kind in India where a corporate house has decided to support innovative education and research under its CSR policy to create manpower and job opportunities and entrepreneurs and skill development centres in Eastern India. The campus is equipped with modern equipments for carrying out high-class research and innovation at Centres of Excellence to develop technology and to support Research & Development in industry and Skill Development in Chemical Engineering, Petrochemicals, Textiles, Polymers, Pharmaceuticals, Energy, and Food etc. The nation, at large, will benefit from this initiative.

Our endeavour is not only to provide access to quality education and training but also to create an individual who can earn sustainable livelihood.

Our Vision and mandate is to develop a self-sustainable institution with sophisticated and high-end research facilities in the field of Chemical Technology and its allied branches and to produce well-trained engineers and extraordinary researchers.

Placement of students from first batch of iMTech, Two Year MTech, and Ph.D. scholars has also been progressing well in leading and globally renowned industries and academic institution in India and abroad.

**Prof. Prof. Ravindra V. Adivarekar**

*BSc (Tech), MSc (Tech), PhD (Tech)*

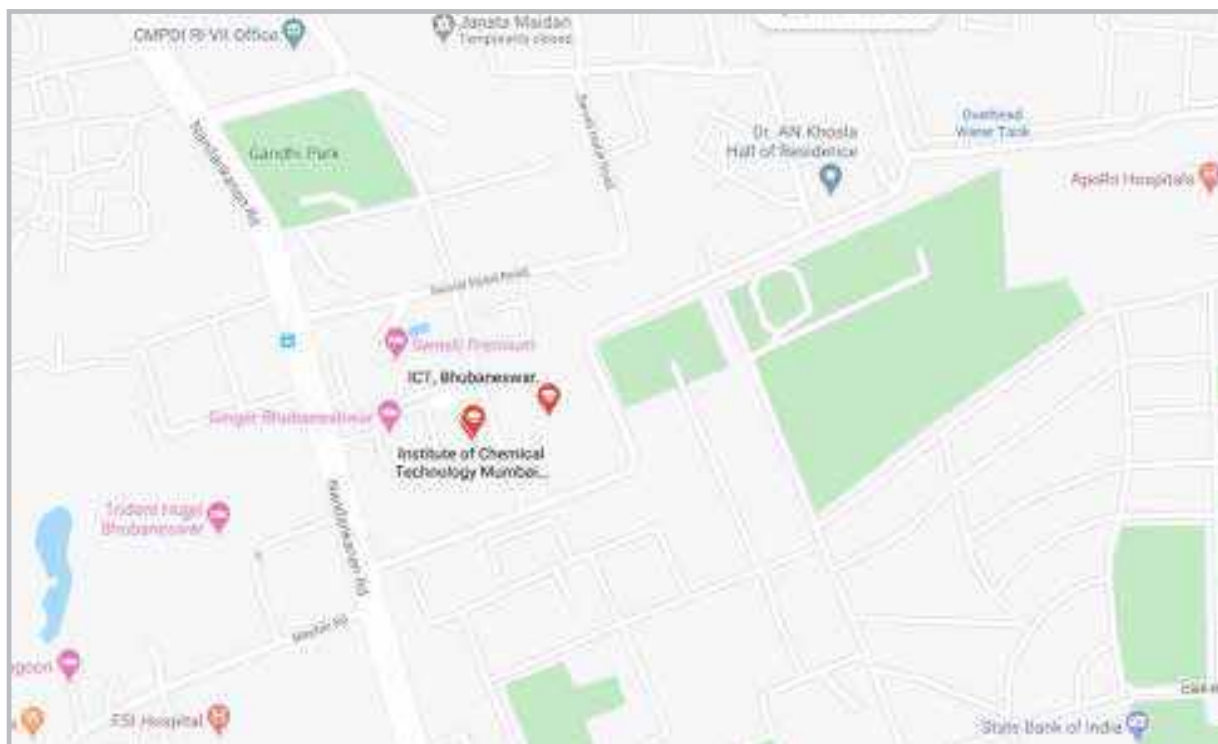
**Director In-Charge, ICT-IOCB**





## 4.2 IMPORTANT INSTRUCTIONS

1. Candidates are requested to visit JoSAA2023 portal frequently for time-to-time updates for admission to Integrated MTech in Chemical Engineering Programme for AY 2025-26 as ICTM-IOC Bhubaneswar conducting admission to iMTech course based on JEE (Main) ranking through JOSAA. <https://josaa.nic.in/>
2. Please read carefully the instructions to candidates by JoSAA before filling the application form. <https://josaa.nic.in/>
3. Merit list/ schedule of admission rounds for the Integrated MTech course will be displayed on JoSAA portal. Please note that no individual correspondence will be made in this regard and it is the responsibility of the candidates to visit the webpage regularly. <https://josaa.nic.in/>
4. Pleading ignorance about information displayed on the web shall not be entertained.
5. Admission to hostel will be based on the availability of rooms at Khosla hostel.
6. Merit is the only criterion for admission to any course and seats are reserved as per the directives from JoSAA.
7. Candidates are requested to refer section 6.7 for instructions regarding the admission procedure for Regular MTech/MSc, Executive MTech, and Ph.D. programme at ICTM-IOC Bhubaneswar.
8. There are no agencies operating on behalf of the institute and there is no capitation fee or donation in regard of admissions. Be careful of any persons claiming to offer admission to the ICTM-IOCB or knowing authorities. No extraneous considerations should be brought to exert pressure on the Admission Committee. It will be strictly dealt with. We take pride in fairness and openness in admissions and all matters and give justice to one and all.
9. All correspondence regarding admissions to programmes other than iMTech should be addressed to the Registrar, Institute of Chemical Technology, Nathalal Parekh Marg, Matunga, Mumbai-400019 (admission@ictmumbai.edu.in; +91-22-33611111/ 2222; Fax: +91-22-33611020).



### 4.3 APPROACH ROUTES TO ICT-IOC, BHUBANESWAR AND LANDMARKS

A location map of the ICT-IOC, available on Google maps, is provided above and the various access routes are described from nearby railway stations, bus stops and the airport.

#### Landmarks in the vicinity of ICT-IOC

ICT-IOC, currently running its classes from the Extension Centre campus of IIT-Kharagpur at the Temple City, Bhubaneswar is situated just behind the famous 5-star luxury Hotel named “Swosti Premium”. The Hotel is situated on the right side of the Jayadev Vihar to Nandankanan Main Road.

#### A. From Bhubaneswar Railway Station (Main Station)

The ICTM-IOCB can be reached in about 15 minutes on the main road from Master Canteen Square towards Jayadev Vihar- Nandankanan Main Road. Main Railway Station is also accompanied by the Govt. Bus stand to its adjacent, a result Govt. Buses are readily available in this route.

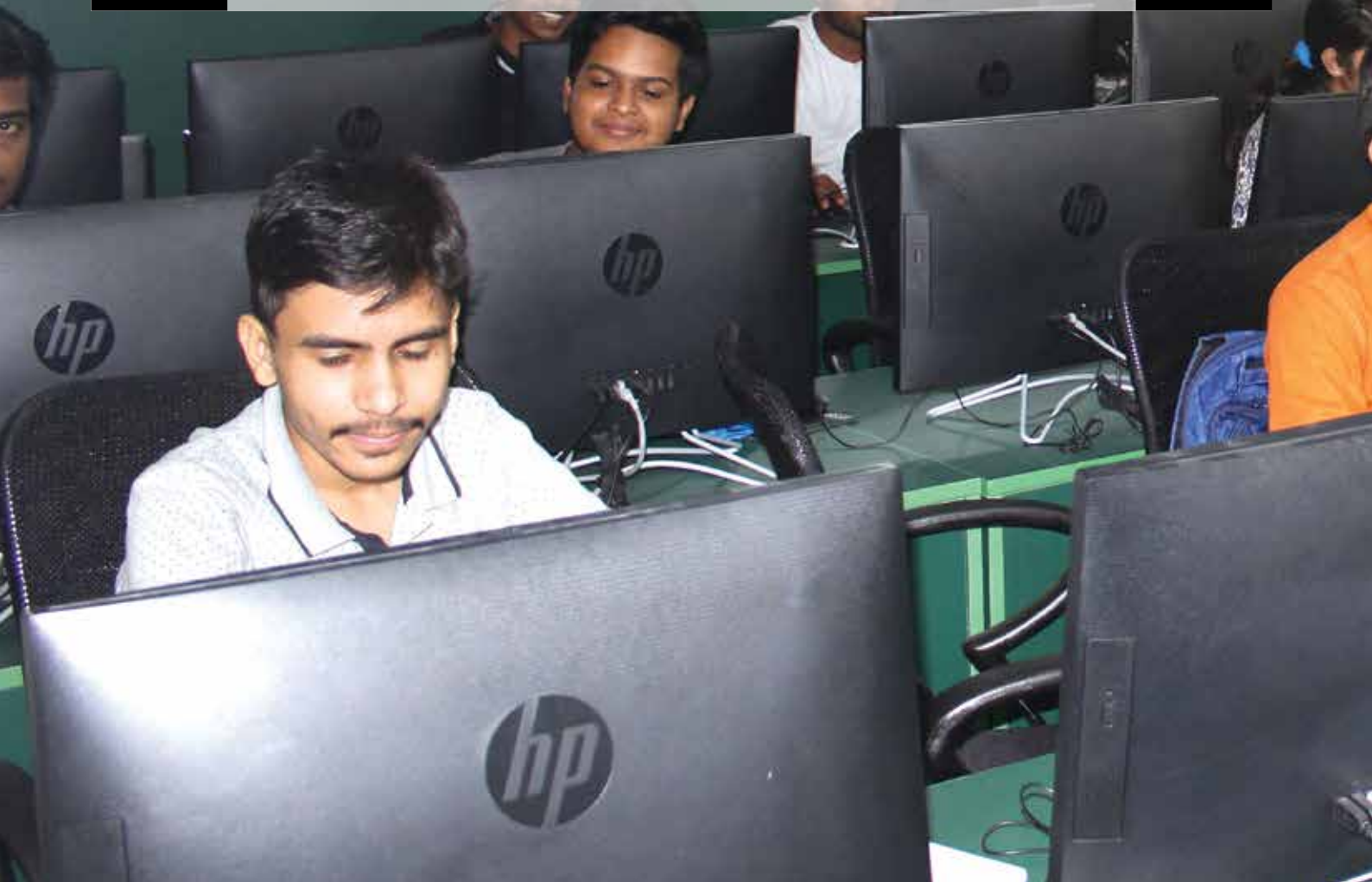
#### B. From Biju Patnaik International Airport (Bhubaneswar Airport)

It is about 25 minutes by road from the only Airport of Bhubaneswar. Cabs and Govt Buses are easily accessible which directly ply through the road connecting the Institute.



# FACULTY PROFILE

ICT Mumbai - IndianOil  
Odisha Campus, Bhubaneswar





**PROF. PROF. RAVINDRA V.  
ADIVAREKAR**

*BSc (Tech), MSc (Tech), PhD (Tech)*

**Professor of Fibres & Textile Processing  
Technology**

**Director In-Charge, ICTM-IOC**





**Prof. Prof. Ravindra V. Adivarekar**

*BSc (Tech), MSc (Tech), PhD (Tech)*

**Director In-Charge, ICTM-IOC**

**Professor of Fibres & Textile Processing Technology**

**Department: Pharmaceutical Sciences and Technology**

**SUBJECTS TAUGHT:**

Pretreatment of Textiles, Technology of Printing, Technology of Textile Colouration, Advanced Textile Technology, Energy and Water Conversion in Textile Industry, Testing of Textiles, Dyes and Auxiliaries, Continuous Processing of Textiles.

**RESEARCH INTEREST:**

Natural Dyes and Mordants; Fibre Modification; Regeneration of protein and its applications; Respiratory filtration; Extraction of lignin and its applications; Nanocellulose; Superabsorbent; Dyeing and Printing of Textile; Mass Production and extraction of Microbial Enzymes and Colourants for Textile Processing; Medical Textile; Colour fastness of Textile Materials; Detergency of Textiles, Ionic liquids, and Dendrimers for Textiles

**Recognized Research Guide for** Pharmaceutics Guided students: Ph.D. 22, 12 (Ongoing), Masters: 55, Total Research Publications (Scopus): National: 74, International: 104, H-Index : 18, **Citations:** 1091

**Dr Sanjib Kumar Acharya**

*Ph.D.*

**Assistant Professor (Engineering Mathematics and Computer Science )**

**SUBJECTS TAUGHT:**

Mathematics I, II, Engineering Applications of Digital Computer, Mathematical Modelling

**RESEARCH INTERESTS:**

Numerical Solution of Partial Differential Equations

**Recognized Research Guide for** Mathematics, Guided students: PhD (2), I.Mtech (0), M.Tech (0), MSc (0), Total Research Publications (Scopus): 4, H-Index : 2, **Citations:** 10

**AWARDS:**

Professor Gokulananda Das Research Award in Mathematics 2023 (GDRAM23) Utkal University, Bhubaneswar



**Dr Ayantika Sett**

*Ph.D.*

**Assistant Professor (Chemical Engineering)**

**SUBJECTS TAUGHT:**

Momentum transfer, Heat transfer, Chemical Process Control, Chemical Engineering Thermodynamics, Separation Processes

**RESEARCH INTERESTS:**

Waste valorization, Waste water treatment, Application of microfluidics in waste treatment and biofuel production, paper based microfluidics devices

**Recognized Research Guide for** Chemical Engineering, Guided students: PhD (2), 8 (IMtech), Total Research Publications (Scopus): 6 H-Index : 5, **Citations:** 62



### Dr Rambabu Dandela

Ph. D.

Assistant Professor (Industrial and Engineering Chemistry)



#### SUBJECTS TAUGHT:

Organic and Analytical Chemistry, Organic Laboratory Techniques

#### RESEARCH INTERESTS:

Organic synthesis, Chemical Biology, Chemical Proteomics, Polymorphism, Process Research development.

**Recognized Research Guide for:** Chemistry, Guided students: PhD 17 (9 completed, 8 ongoing), I.Mtech (9), MSc: 15 (completed), M.Tech (1), Postdocs 2 (1 ongoing), Total Research Publications (Scopus): 230, H-Index : 28, **Citations:** 2292, Number of patents (Filed/Granted): 9

#### AWARDS:

1. Ramanujan Fellowship by DST, Govt. of India, 2017-2022,
2. Associate fellow of Telangana Academy of Sciences, 2018,
3. Associate fellow of Andhra Pradesh Academy of Sciences, 2017,
4. PBC program outstanding post-doctoral fellowship by Govt. of Israel (2013-2016)



### Dr. Ramakanta Naik

Ph. D. (Physics)

Assistant Professor (Department of Engineering and Materials Physics)

#### SUBJECTS TAUGHT:

Applied Physics, Engineering Physics, Introduction to Materials science, Research Methodology

#### RESEARCH INTERESTS:

Transition Metal chalcogenides; Solar cell materials; Nano-structured materials for photodetector and energy storage devices; Oxychalcogenide Materials; Photo-induced inter-diffusion in amorphous thin films, **Recognized Research Guide** PhD (5 completed, 2 Thesis submitted, 6 ongoing), I.Mtech (1), MSc: 29 completed, Total Research Publications (Scopus): 236, H-Index : 34, **Citations:** 3380

#### AWARDS:

Among the Top 2% of scientists as per Stanford and Elsevier data 2024, DST-INSPIRE Faculty Award, Young Scientist Award from Orissa Physical Society

### Dr. Abhay Vijay Kotkondawar

Ph.D., Chemical Engineering

Assistant Professor



#### SUBJECTS TAUGHT:

Physical Chemistry, Inorganic Chemistry, Pharmaceutical Analytics, Industrial and Engineering Chemistry.

#### RESEARCH INTERESTS:

Heterogeneous Photocatalysis, Electrocatalytic water splitting reaction, Lignin Valorization, Analytical Method development and validation

**Recognized Research Guide for:** Analytical Chemistry, No of publications: 7, No. of Patent: 1 Granted, Total Research Publications (Scopus): 7, H-Index: 5, **Citations:** 67

### Dr. SMRUTIREKHA MISHRA

Ph.D. (Materials Science and Engineering, IIT Delhi), M.Tech (Plastics Engineering, CIPET Ahmedabad), B.Tech (Plastics Engineering, CIPET Bhubaneswar)

**Assistant Professor (Materials and Polymer Engineering)**



#### SUBJECTS TAUGHT:

Nanomaterials, Polymer Science and Technology, Materials Processing, Introduction to Materials Technology

#### RESEARCH INTERESTS:

Polymer nanocomposites, Surface modification of nanoparticles, Biomaterials, Plastic recycling, **Recognized Research Guide for Materials and Polymer Engineering**, Guided students: PhD (2), 12 (IMtech), Total Research Publications (Scopus): 15, H-Index : 10, **Citations:** 165, No of Patent Filed: 2

#### AWARDS:

1. IIME Young innovator's award 2023, CSIR-IMMT, IIME Chapter,
2. IIM-ATM 2023 Young researcher award,
3. ICT Golden Jubilee Research Fund Award (2022-2023),
4. NCTU Taiwan Elite scholarship 2019 - to carry out research work at NCTU Taiwan,
5. 3rd position in ORAL presentation at YRS-2019, IIT Delhi,
6. Consolation award Open house demonstration 2018, IIT Delhi.,
7. 3rd position in master's degree 2015, CIPET Ahmedabad,
8. Consolation award at APM-2013 (International Conference), Lucknow,
9. 2nd position in undergraduate ORAL talk, VIDYANSH-2012, CIPET Bhubaneswar



### Dr Yatin Gadkari

Ph.D.

**Assistant Professor**

#### SUBJECTS TAUGHT:

Advanced Pharmaceutical Chemistry, Drug Delivery Technology, Technology of Fine and Specialty Chemicals, Advanced Pharmaceutical Technology, Active Pharmaceutical Ingredients Technology, Medicinal Chemistry.

#### RESEARCH INTERESTS:

Drug Discovery and development, Drug Design, Nanodrug delivery system, Methodology development, Process intensification

**Recognized Research Guide for:** Pharmaceutics, Guided students: PhD (2), IMtech (10), MTech (20), Total Research Publications (Scopus): 14, H-Index : 5, **Citations:** 56

#### AWARDS:

1. TEQIP Research Fellow,
2. Received international grant from Korean Society of Ginseng, South Korea



**Dr. Akshaya Kumar Sahoo**

*Ph.D. Tech Food Technology*

**Associate Professor**

**SUBJECTS TAUGHT:**

Advances in food engineering, Comprehensive techniques in food analysis, Advances in food science and nutrition, Food chemistry, Design and development of new products

**RESEARCH INTERESTS:**

Functional foods and nutraceuticals, Preservation of food, Agri-food processing waste utilization and Ready to eat food

**Recognized Research Guide for Food Technology**, Guided students: PhD ((8), 43 (Mtech), Total Research Publications (Scopus): 95, International: 78, National: 17, H-Index : 17, **Citations:** 1220, No of Patent Filed: 4(Granted)

**AWARDS:**

Ranked 33 in India among food scientists in world scientist and university rankings 2023 by AD Scientific Index.



**Dr. Ritesh S. Malani**

*Ph.D.*

**Assistant Professor**

**SUBJECTS TAUGHT:**

Reservoir Engineering, Petroleum Refining, Refinery Engineering, Natural Gas Engineering, Petrochemicals, Research Methodology, Mass Transfer Operation.

**RESEARCH INTERESTS:**

Upgradation of crude oil, Recovery of Phosphoric acid from Phosphogypsum, Bio-based Polyols and Polyurethane thereof, Biodiesel synthesis, Heterogeneous Catalysis, Cavitation Processes, etc.

**Recognized Research Guide for Petrochemical and Energy Engineering**

Guided students: Master (1 Completed, 1 Going)

Total Research Publications (Scopus): 24

H-Index : 13, **Citations:** 649

**AWARDS:**

- 2nd Award in Open Category during NGIC 2020, organized by HPCL Green R&D Centre, Bengaluru,
- Best Paper Award during LAMSYS-16, at Satish Dhawan Space Centre (SDSC) SHAR-Indian Space Research Organization (ISRO), Sriharikota, Andhra Pradesh, India,
- Ambuja's Young Researcher's Awards for doing postgraduate studies in India after qualifying national level (GATE) entrance examination.



### Ashish Adak

Ph.D.

Assistant Professor



#### SUBJECTS TAUGHT:

Mathematics-I, Mathematics-II, Process Simulation Lab-1

#### RESEARCH INTERESTS:

Nonlinear Wave Phenomena, Nonlinear Dynamics, Nonlinear Plasma Theory

**Recognized Research Guide for Mathematics**, No of Publications: 9, Total Research Publications (Scopus): 9, H-Index : 5, **Citations:** 104

#### AWARDS:

- UGC-Dr. D.S. Kothari Postdoctoral Fellowship (DSKPDF);
- National Post-Doctoral Fellowship (NPDF), SERB, DST, Govt. of India



### Dr. Kruthi Doriya

Ph.D.

Assistant Professor

#### SUBJECTS TAUGHT:

Biochemical Engineering, Bioprocess Engineering and technology, mass transfer operations, introduction to biological science and engineering, advanced biochemistry, microbiology/biochemistry.

#### RESEARCH INTERESTS:

Biochemical engineering and allied areas, **Recognized Research Guide for: Chemical Engineering**, No of Publications: 8, Total Research Publications (Scopus): 8, H-Index : 7, **Citations:** 660

### Dr. Sushma Chakraborty

Ph.D.

Assistant Professor



#### SUBJECTS TAUGHT:

Heat Transfer, Environmental Engineering and Process Safety, Process Development and Engineering, Equipment Design and Drawing, Material Science and Engineering, Chemical Engineering Lab.

#### RESEARCH INTERESTS:

Membrane separation, Material synthesis, Wastewater treatment, Food processing

**Recognized Research Guide for: Chemical Engineering**, No of Publications: 8, No. of student guided: 26 (11 ongoing IMtech), Total Research Publications (Scopus): 8, H-Index : 5, **Citations:** 121



### Dr. ASIMA RAFIQ

Ph.D. (Scientist, Division of Food Science and Technology, Sher-e-Kashmir University of Agricultural Sciences)

#### Subjects Taught:

Food Toxicology

#### Research Interests:

Functional Foods, Extrusion Technology and Novel Food Processing

Number of Publications: 15, **H-Index:** 7, **Citations:** 563, No. of students guided: 4

#### Awards:

DBT BIOCARE Project

### Dr. SYED ZAMEER HUSSAIN

Ph.D. (Professor and Head, Division of Food Science and Technology, Sher-e-Kashmir University of Agricultural Sciences)

#### Subjects Taught:

Advances in Nutrition

#### Research Interests:

Food Fortification, Extrusion Technology, Functional Foods, Novel Food Processing Techniques, Non destructive Food Quality Evaluation, Machine Designing

**No. of Students Guided: 18**

**TOTAL RESEARCH PUBLICATIONS: 132**

**H Index: 16, Citations 1155**



### DR. RAMAJANAKI IYER

Ph.D.

Assistant Professor

#### SUBJECTS TAUGHT :

Industrial Psychology, Human Resources Management, Industrial Management (General management and Marketing management), Perspectives of Science Technology and Society, Biostatistics (usage of software SPSS), Communication Skills and ethics.

#### RESEARCH INTERESTS:

Stress management, Defense mechanisms, Addiction behaviours, Environmental studies and societal impacts, Interplay of science technology and society. **Total research publications: 16, H-Index: 7, Citations: 201,** No. of students guided: MBA(40)

#### AWARDS:

- Dr Rajadhyaksha Best Teacher's award for Final Year B Chem Engg, ICT Mumbai (2018-19)
- Best Teacher's award, Final BTech, ICT Mumbai(2017-18).

### Dr. Pranati Nayak

Ph.D.

Assistant Professor (Ramanujan Fellowship)



#### SUBJECTS TAUGHT:

Physics

#### RESEARCH INTERESTS:

Material Electrochemistry, 2D Materials (Graphene, transition metal carbides-MXenes), synthesis, and application on flexible biosensors, graphene-based device fabrication, fundamental electrochemistry of 2D materials, Single entity electrochemistry

**Recognized Research Guide for:** Physics

No of publications: 23, No. of Patent: 1 Granted, Total Research Publications (Scopus): 5, H-Index : 17, **Citations:** 1326

#### AWARDS:

- Ramanujan Fellowship, SERB, DST, Govt. of India
- Newton International Fellowship, Royal Society, UK
- Early Career Research Award, SERB, India
- JSPS Postdoctoral Fellowship, Japan
- DST Inspire Faculty Award, DST, Govt. of India
- Prof. A. L. Laskar award for the best Ph.D. thesis in Physics, IIT Madras (Medal + Certificate + INR 5k cash prize)
- Institute Research award, Dean academic research, IIT Madras (Certificate + INR 20k cash prize)
- Best poster prize in the international conference “Advanced Nano Materials (ANM-2012)” (Certificate + INR 3k cash prize)
- GATE 2009 in Physics- a National level examination for pursuing a Ph.D. by MHRD, Govt. of India



### Dr. RAMESH DEVARAPALLI

Ph.D.

Assistant Professor

#### SUBJECTS TAUGHT:

Electrical Technology, Electrical Power systems, Electrical Machines

#### RESEARCH INTERESTS:

Power Systems: Electrical Engineering

**Recognized Research Guide for:** Electrical Engineering,

No of publications: 63, Total Research Publications (Scopus): 63, H-Index : 13, **Citations:** 537





**Dr. Chayan Sarkar**

*Ph.D.*

**Assistant Professor**

**SUBJECTS TAUGHT:**

Momentum Transfer, Chemical Reaction Engineering, Advanced Transport Phenomena, Advanced Chemical Reaction Engineering, Mathematical Methods in Chemical Engineering

**RESEARCH INTERESTS:**

Adsorption, Photocatalysis, Smart Materials, Modelling and Simulation.

**Recognized Research Guide for Chemical Engineering,**

No of publications: 6, Total Research Publications (Scopus): 6,

**H-Index: 5, Citations: 184**



**Dr. Swagat Mohapatra**

*Ph.D.*

**UGC Assistant Professor**

**SUBJECTS TAUGHT:**

Chemistry

**RESEARCH INTERESTS:**

Organic and Organometallic materials for electronic and energy devices

Recognized Research Guide for Chemistry

Guided students: Ph.D: 5 Completed, 6 Ongoing M.Phil:10 M.Sc. Tech: 13

**Total Research Publications (Scopus): 28, No. of patents (Filed/Granted): 1**

**H-Index :17, Citations: 1521**



**Dr. Pyarimohan Dehury**

*Ph.D.*

**Assistant Professor**

**SUBJECTS TAUGHT:**

Conventional Energy and Utilization, Renewable Energy Systems, Combustion and Chemistry of Fuels, Energy Conversion and Storage, Materials for Energy Applications, Energy Management

**RESEARCH INTERESTS:**

Hydrogen from Waste, Deep Eutectic Solvents, Heat Transfer Fluid, EV thermal Management, Rare Earth Extraction, Thermoelectric Devices, Solar Thermal

Recognized Research Guide for : Energy Engineering, I.Mtech (15), No of publications: 9, No. of Patent: 3, Total Research Publications (Scopus): 9,

**H-Index : 7, Citations: 126**



# INFRASTRUCTURE AND FACILITIES



## Central research facility at ICTM-IOC Bhubaneswar





## Central research facility at ICTM-IOC Bhubaneswar





*UG & PG laboratory at ICT-IOC, Bhubaneswar*



*Central Library at ICTM-IOC Bhubaneswar*

## 4.6 CENTRAL LIBRARY

### 4.6.1 INTRODUCTION

The ICT – IOCB Library functions as the Central Library was established in the year 2018. The Library caters to the educational and research needs of the academic community of the institute. It provides supports to both Academic and Research work. At present, the Central Library is functioning on the Ground floor of the academic building. The library provides open-access system to its user community. It is having rich collections in basic science, specialized collection in Chemical Engineering, Chemical Sciences, Chemical Technology, Material Physics, Industrial Chemistry, Pharmaceutical Engineering, Food Engineering and Its allied Subjects. The library is having access to a number of e- resources. The library is fully Automated ILMS (Integrated Library Management Software) KOHA software. Users can access the Online Public Access Catalogue (OPAC) over the Internet. Users can find out the real-time availability of library materials from their own computer terminals. The library also has a separate collection of Reference book.

### 4.6.2 LIBRARY TIMINGS

Monday to Saturday from 9.00 am to 5.30 pm (On Working Days)

2<sup>nd</sup> & 4<sup>th</sup> Saturday, Sundays and Holidays Library remains closed



### 4.6.3 LIBRARY LAYOUT

The Library is located on the Ground Floor of the C block of the Institute, is centrally accessible to all departments and centers.

### 4.6.4 MEMBERSHIP

Central Library provides its membership by default to all the bonafide members (students, research scholars, faculty members, and staff) of the Institute. The membership is valid as long as the user become the member of the Institute.

- The bonafide students, faculty, and Staff of the institute have book lending facility.
- Book borrowing facility can be availed against ID card.

### 4.6.5 LIBRARY MEMBERSHIP

- The Library is a Member of NDL Club (National Digital Library of India)

### 4.6.6 LIBRARY COLLECTION

The Central Library's current Book and Online E-resources collection practice aims to meet the requirements of all the Departments at ICT - IOCB.

- **Books**

The library having a good number of rich printed book collections, which aims to meet the course requirements as per the syllabus.

- **e-Library Collections**

Library has a collection of e- resources like e-databases & e-journals, accessible through Remote Access (Through RemoteXS software) from their parent institute i.e. Prof. M.M. Sharma Library, ICT Mumbai Campus. The digital resources include e-journals from renowned publishers like Elsevier, Royal Society of Chemistry, Wiley, Nature, and Springer. Bibliographic e-databases like Scopus, Reaxys, and Web of Science etc.

- **Open Access Resources**

The Library is also providing various open access resources from different platforms.

### 4.6.7 LIBRARY SERVICES

**The library provides services to its user community like:**

Circulation	CAS (Current Awareness Service)
SDI (Selective Dissemination Service)	Reprography Service
New Books Arrival Alert	Inter Library Loan (Through Various Library Networks)
OPAC (Open Public Access Catalogue)	Reference Service
Reading RoomDigital Library	Suggestion & Feedback
Plagiarism Check (iThenticate)	Literature Search (Scopus, Web of Science, Google Scholar and Other)
User Orientation	Remote Access Facility
24×7 Library Services Through WhatsApp & email.	IRINS Faculty Profile Management

### 4.6.8 LIBRARY IMPORTANT LINKS

IRINS: <https://iocb.irins.org/>

Library Website: <https://libraryictiocb.in/>

ICT Mumbai Library Union Catalogue: <http://ictlibrary.firststray.in/>

e-library Consortium: <https://elibraryict.remotexs.in/user/login>



#### 4.6.9 CONTACT

Alekha Karadia (Assistant Librarian, ICT – IOC Library)

email- a.karadia@staffiocb.ictmumbai.edu.in. Phone- 0674 -2651707

#### 4.7 MAJOR RESEARCH FACILITIES AT ICTM-IOCB CAMPUS

Several high end and research grade analytical instruments and equipment are available at ICTM-IOC Bhubaneswar Campus. A list of selected instruments is attached below:

1.	High Pressure Liquid Chromatography System
2.	High Pressure Thin Layer Chromatography System
3.	NGC Chromatography System
4.	Gas Chromatography
5.	Gas Chromatograph – Mass Spectrometer
6.	Gas Chromatograph – High Resolution Mass Spectrometer (GC-HRMS)
7.	Contact angle meter
8.	Digital Density Meter
9.	Surface tensiometer
10.	Raman Microscope
11.	Thermogravimetric Analysis/Mass Spectrometry (TGA-MS)
12.	Supercritical Extraction & Chromatography System
13.	Inductively Coupled Plasma-Mass Spectroscopy spectrometer (ICP-MS Spectrometer)
14.	FTIR
15.	Crystal16
16.	Multimode dryer
17.	Differential scanning calorimetry
18.	Bench top fixed bed flow reactor
19.	High pressure reactor
20.	Electrochemical workstation
21.	Ion Chromatography
22.	Engineering Machines
23.	Powder X-Ray Diffractometer System
24.	Single Crystal XRD System
25.	NMR 400MHz
26.	TESCAN SEM with EDS system
27.	Joel HRTEM with EDS facility
28.	Joel FESEM with EDS system
29.	Atomic Force Microscope
30.	Liquid Nitrogen Plant (IMTEK Cryogenics CNP 240)

## 4.8 HOSTEL FACILITY FOR ICTM-IOCB STUDENTS



1. Institute of Chemical Technology- Indian Oil Odisha Campus Bhubaneswar (ICTM-IOCB) has its temporary hostel in Khosla Hostel near academic premises of ICT-IOC. Khosla hostel has complete facilities to fulfil academic and personal potentials of students with a conducive environment to live and learn.
2. Hostel is located near to campus which is in the prime location and well connected through public transport around the city.
3. AIRPORT: - The Biju Patnaik International Airport is about 4 Km from the transit campus.
4. RAILWAYSTATION: - The Bhubaneswar Master Canteen Square (Railway Station) is about to 7.5 Km from the campus.  
**There are 4-seater rooms available in the hostel with all essential facilities.**  
**Hostel fees: - 39,000/- INR and Mess fees: - 45,360/- INR**
5. Institute has own bus arrangement for students to travel from hostel to academic premises.
6. There are separate wardens appointed ICTM-IOCB students, separate for Boys and Girls hostels.
8. There are indoor games arrangement inside the hostel. For an example: - Table Tennis, Carrom, Chess, Badminton, and indoor gyms as well.

### 4.8.1 RULES AND REGULATIONS

#### Hostel Timing

- Hostel gate is opened from 6:00 AM till 7:00 PM on weekdays except Sundays and Holidays
- On Sundays and Holidays, with due permission from the Hostel Superintendent, the boarders may avail local outing from 8:00 AM till 8:00 PM. Written permission must be produced before the caretaker for record before proceeding on leaving the Hostel for home or another place.

### Should Obey Rules

- Food will only be served in the dining hall as per mess timings.
- Plates are strictly restricted to rooms. Anybody found will be charged as deemed to be fit.
- Boarders are not allowed moving in the floor at night otherwise will be punished.
- First-Aid service is available in the Hostel Office
- Boarders with permission from hostel authorities are allowed to visit library in the evening till 8:00 PM.
- For Wifi/Internet service for 24 hours borders have to register their Laptop with the Hostel Office.
- Taking outsiders in the Hostel or request to bring them in hostel are strictly restricted.
- Show Identity Card issued by Hostel Office otherwise entry is strictly restricted.
- Don't use any electrical and electronic equipment like iron, water heater and sound system.
- All should be present at attendance. Call will go to parent if absent during attendance time.
- Nobody is allowed to go outside after 10 PM.
- Surprise checking will be at any moment, if anything found in the room will be seized and never returned.

### Indiscipline in the hostel

- Ragging, smoking, consuming alcohol, possession and peddling of narcotics/ psychotropic drugs.
- Don't use unnecessary alarm buttons/ go outside of capacity to in the lift mentioned inside.
- Maltreating or abusing hostel staff.

## 4.9 AUDITORIUM

The institute has a state of the art Auditorium equipped with latest hi-tech gadgets and equipment. This auditorium serves as the venue for seminars, workshops, conferences, events, presentations and display of educational videos conducted regularly by the institute.

## 4.10 COUNSELLING SERVICES

Counseling services of ICT Mumbai campus is being provided to ICTM-IOCB campus as when required.

## 4.11 TRAINING AND PLACEMENT CELL

Integrated M. Tech. (after 12<sup>th</sup>/HSC with 10 semesters). This is an innovative program where students may get stipend from Industry in addition to accommodation and other facilities. During the course work student will be trained in an industry leading to two years of total industrial experience. More than 50 industries are providing internships. This will help student to acquire better understanding of industrial processes/activities and in turn helps in acquiring placement. This year 10 students are going to Canada/Singapore for internship.

There are many refineries and petrochemical and allied industry in the country to employ students of the ICT. Alumni are at the helm of affairs of large number of renowned chemical industries. A placement cell is launched with the participation of the UDCT Alumni Association (UAA) to assist campus placement which begins in the month of July, and continues throughout the year for students. The Institute's graduates are highly-sought after by the Indian and global chemical industry and their salaries rank among one of the highest in the country, even dwarfing the salaries of graduates of the premier branded institutes; placements achieved via campus interviews fetch emoluments ranging from **Rs. 3.50 to Rs 14.00 lakhs per annum**. What is most striking is that these placements are in hard-core industries relevant to the students training and education, and not in the software industry, which has been a major source for employment for graduates of some of the best institutes in India. With regards to post-graduate research opportunities, a good number of our students are offered admission by some



of the world's best universities to pursue graduate studies. The Institute is one of the few institutions in Asia that is regularly represented in the graduate student bodies of prestigious institutes such as the Massachusetts Institute of Technology, Stanford University, University of California, Berkeley, Caltech, UCSB, Princeton, University of Michigan, Ann Arbor, University of Texas, Carnegie Mellon University, Purdue University, University of Massachusetts, Cambridge University, Imperial College, Manchester University, Twente University, Monash University, to name a few. All of them receive full financial support. Several universities write to us to recommend good students. Leading foreign universities have signed MOUs for student exchange through proper support for the exchange. On an average, about 75 students from various degree programmes get such fellowships. Quite a few Ph.D. holders go abroad for post-doctoral studies in reputed institutes; this is directly linked to the quality of research outcome and personal positioning of the faculty in international community.



Technological Association Team with Vice-President Dr. Ayantika Sett





*Bus facility at ICTM-IOC Bhubaneswar*



*Tree plantation Drive 2023 under the theme "One Student-One Tree"*



*Medical camp at Khosla Hostel at ICTM-IOCB*

## NATIONAL SCIENCE DAY CELEBRATION



National Science Day is celebrated annually in India on February 28th to commemorate the discovery of the Raman Effect by Indian physicist Sir C.V. Raman in 1928. It is a day to recognize the importance of scientific discoveries and their contribution to society. This year, INSTITUTE OF CHEMICAL TECHNOLOGY, IOC, BHUBANESWAR celebrated National Science Day enthusiastically, aiming to foster scientific temper among students and faculty alike.

*Organized by Dr. Nimai Mishra on 28th February 2024. There were quiz competitions followed by scientific talks.*



## Internship (National/International) for I.Mtech ICTM-IOC Students

### National



Every alternate Trimester ICTM-IOC students undergo internship training at different industries and research institute (Some of them are quoted above)

**INSTITUTE OF CHEMICAL TECHNOLOGY**  
INDIANOIL ODISHA CAMPUS BHUBANESHWAR

HEARTIEST CONGRATULATIONS TO THE STUDENTS SELECTED FOR MITACS GLOBALINK RESEARCH INTERNSHIP AWARD 2023, SPONSORED BY CANADIAN GOVERNMENT.

 <b>Jyotisman Rath</b> Laser Ablation for Energy Storage Devices (University of Manitoba)	 <b>Kautilya Jha</b> Renewable Polymer based Packaging materials with enhanced functional properties (University of Manitoba)	 <b>Rishika Mohanty</b> Conversion of Fats and Lipids to biogas fuel (University of Alberta)
 <b>Anushka Shrivastava</b> A new look into food waste: Nutritious and eco-friendly extrudates (University of Manitoba)	 <b>Mayappan K</b> Preparation of ion batteries (Université de Montréal)	 <b>Sancia Morris</b> Optimization of Biofilm and Hydrodynamics for Anaerobic Digesters (York University)

The MITACS Globalink Research Internship is a 12-week fully-funded research opportunity that enables students to carry out research on particular projects in renowned Canadian universities after being chosen from among over 27000+ applicants globally through a rigorous application and interview procedure.

**INSTITUTE OF CHEMICAL TECHNOLOGY**  
INDIANOIL ODISHA CAMPUS BHUBANESHWAR

HEARTIEST CONGRATULATIONS TO THE STUDENT SELECTED FOR THE DAAD-DMB-DST INTERNSHIP AWARD 2023, SPONSORED BY THE INDIAN AND GERMAN GOVERNMENT

**Ashish Joshi**  
 Investigations of multiphase reactions based on renewable feedstocks.  
 (RWTH Aachen University)

The DAAD-DMB-DST Internship Award is a fully-funded scholarship awarded to students and researchers whose projects on sustainability issues benefit from a research exchange to Germany. Only 20-25 students are selected each year for this fellowship.

This collaboration and fellowship was carried out and facilitated by the International Relations Cell.



ICTM-IOCB Bhubaneswar Campus received Odisha Education Leadership Awards 2024



## 4.12 INNOVATIVE PROGRAMMES AT ICTM-IOC BHUBANESWAR

As it was stated elsewhere, ICT has added two campuses from 2018-19, this being one of the two. Because of the Category I and Deemed to be status, it was possible for ICT to go out of Maharashtra. In view of massive investment in energy, petrochemicals, chemicals, polymers, textiles, minerals, materials, biotechnology, pharmaceutical, and food industries in Odisha, ICT was requested to open a campus in Bhubaneswar. Indian Oil Corporation Ltd took a historic decision to support fully a campus of ICT in Bhubaneswar. This is the first of its kind in India where a corporate house has decided to support innovative education and research under its CSR policy to create manpower and job opportunities and entrepreneurs and skill development Centres in Eastern India. The nation at large will benefit.

The campus is equipped with modern equipment for carrying out high class research and innovation at Centres of Excellence to develop technology and to support Research & Development in industry and Skill Development in Chemical Engineering, Petrochemicals, Textiles, Polymers, Pharmaceuticals, Energy, Food Technology, etc.

## 4.13 INTEGRATED M. Tech. IN CHEMICAL ENGINEERING

### (i-M.Tech.)

Integrated Master of Technology (Int. M. Tech.) Major: Chemical Engineering with Multidisciplinary Minors ([Under the National Education Policy (NEP 2020)]).

The Integrated M.Tech. program commences upon the completion of the 12th standard (HSSC, 10+2, or equivalent) and spans a duration of five years, encompassing ten semesters. It offers a primary focus on chemical engineering, supplemented by six diverse multidisciplinary minors.

1. Petroleum and Petrochemical Technology
2. Pharmaceutical Chemistry & Technology
3. Energy Technology
4. Fibres and Textile Processing Technology
5. Materials and Polymer Engineering
6. Food Technology

This initiative will enhance quality and industry alignment in the design of curricula for an integrated M.Tech. program in chemical engineering as the primary discipline, complemented by multidisciplinary minors. The final two semesters will be dedicated to tackling research challenges through practical experimentation, culminating in a comprehensive design project aimed at fostering entrepreneurship and the establishment of startup ventures.

### 4.13.1 INTAKE CAPACITY

The admission to this course is based on JEE (Mains) and intake capacity is 60. 100 % seats are for students admitted through JoSAA as per seat matrix provided at JoSAA portal for ICTM-IOC Bhubaneswar (<https://josaa.nic.in/>)

There are mainly Four types of courses in the Institute:

- (1) Type-I: Theory courses
- (2) Type-II: Laboratory courses
- (3) Type-III: Co-curricular activities (Yoga, NSS etc), ability enhancement (communication skills, languages etc.), value enhancement courses etc.
- (4) Type-IV: Experiential learning (field and community engagement projects etc), internships/ on-job-training etc.

Type-I courses consist of lecture (L) and tutorial (T) hours. Type-II and Type-III consist of practical (P) hours.

Table 6.1: Tentative Schedule of Lecture and Work Terms

Year	Semester	Scheme	Starting month
1	1	Theory, Practical, Co-curricular activities	September
1	2	Theory, Practical, Co-curricular activities	January
2	3	Theory, Practical, Multidisciplinary minor	May
2	4	Theory, Practical, Multidisciplinary minor, Field Project	September
3	5	Theory, Practical, Multidisciplinary minor	January
3	6	Theory, Practical, Multidisciplinary minor, In-Plant Training	May
4	7	Theory, Practical, Multidisciplinary minor, Design Project	September
4	8	In-Plant Training	January
5	9	Theory, Research	May
5	10	Research	September

### 4.13.2 EXAMINATION PATTERN

The marks allotted for evaluation to all subjects would be 100, irrespective of the number of credits for a particular subject. The weightage of different modes of assessments shall be as under.

Course Type	In-Semester Evaluation		End Semester Exam	Components of continuous mode
	Continuous Mode	Mid-Semester Exam		
Type-I	20%	30%	50%	Quizzes, class tests (open or closed book), home assignments, group assignments, viva-voce, presentations
Type-II	50%		50%	Attendance, viva-voce, journal, assignments, projects, experiments, class tests etc
Type-III	100%			Attendance, Level of participation and skills acquired
Type-IV	100%			Reports, Oral presentations, worksheets, observation notes, survey from student's and employer's perspective etc.

Exit Option (Semesters)	Nomenclature of Exit Option
Year 1 (2 Semesters +IPT)	Certificate (Chemical Engineering) (46 credit)
Year 2 (4 Semesters + IPT)	Diploma (Chemical Engineering) (102 credit)
Year 3 (6 Semesters + IPT)	B. Voc. (Chemical Engineering) (160 credit)
Year 4 (8 Semester + IPT)	<ul style="list-style-type: none"> <li>B. Tech. (Major: Chemical Engineering, MDM minors) (181 credit)</li> <li>B. Tech. with Honors and Minor (Major: Chemical Engineering, MDM minors) with option for 1 year M. Tech. Degree (199 credit)</li> <li>B. Tech. with Research and Minor (Major: Chemical Engineering, MDM minors) with option for 1 year M. Tech. Degree (199 credit)</li> </ul>

Exit Option (Semesters)	Nomenclature of Exit Option
Year 5 (10 Semesters)	<ul style="list-style-type: none"> <li>M. Tech. (Major: Chemical Engineering, MDM minors), one year [+ B. Tech. with Honors and Minor (Major: Chemical Engineering, MDM minors) with option for 1 year M. Tech. Degree]</li> <li>M. Tech. (Major: Chemical Engineering, MDM minors), one year [+ B. Tech. with Research and Minor (Major: Chemical Engineering, MDM minors) with option for 1 year M. Tech. Degree]</li> </ul>

### 4.13.3 INDUSTRIES FOR INTERNSHIP

The students of ICTM-IOC Bhubaneswar campus have been given internships in the following industries and this list will go on increasing to include industries across the country as well as abroad in future.

Biofermenta Dahej and Kulu	IOCL Refineries
Gujarat Refinery Baroda	IMMT Bhubaneshwar
IOC R&D Faridabad	Jagannath Polymers Cuttack
Paradeep Phosphate	RINL Vizag steel
Galaxy Surfactants Ltd.	UPL Ltd
Godrej Industries Ltd.	Indo Amines Ltd.
Atul Ltd.	Anupam Colours Pvt. Ltd.
Rubicon Research Pvt. Ltd.	Aarvi Encon Pvt. Ltd.
Gujrat Narmada Chemicals Ltd.	Microchem Laboratory Pvt. Ltd.
Reliance Industries Ltd.	Alkyl Amines Chemicals
Aarti Drugs Ltd.	Aarti Industries Ltd.
Pidilite Industries Ltd.	IIP Dehradun
Adani Group	BPCL
Dalmia Group Cement	GAIL
HPCL	IFFCO
BEML	DRDO
Deohler	BHEL
MAPRO	HAL Nashik
University of Calgary	University of British Columbia
University of Alberta	McMaster University
McGill University	National University of Singapore

This list is not exhaustive and will continue to grow. Very interestingly the industries have liked the Internship Diary prepared by ICT to monitor the student's Progress and some of the students are already assigned research-oriented assignments, literature search, and report writing. The acceptance of the young students has been enthusiastic and speaks volumes about the quality and content of the i-M. Tech. programme.



#### 4.13.4 MINOR DEGREE COMPONENT

The award of the minor degree will be decided at the end of the programme depending on the number of credits the student has acquired. It will not be decided in the beginning and thus the student will have a chance of learning lessons from different disciplines and developing interest. This is again a unique feature.

#### 4.13.5 VIBRANT SYLLABUS

Since the students will be going to industry, they will have to write reports, and credits are given to the student for industrial internship. After the 4th trimester, the students can suggest which new topics should be included in the syllabus in tune with the demands of the industry.

### 4.15 TWO YEAR REGULAR MASTERS DEGREE IN ENGINEERING AND TECHNOLOGY AND BASIC SCIENCE

This regular PG degree programme will be extended to all campuses and students distributed internally “if required” taking into account the expertise of faculty and against the sanctioned total strength on the Main Campus.

#### Master's Degree ( Full time, 2 years ) Programmes at ICT Bhubneshwar Campus

Sr	Post Graduate Programme	Sanctioned Intake	Required qualification
1	M.Tech. (Food Engineering and Technology)	18	B.E/B.Tech/B.Sc( Tech) in Food Engineering and Technology/ Food Engineering/Food Technolgy/Food Science/ Food Process Engineering .
2	M.Tech. (Pharmaceutical Technology)	18	B.Sc.(Tech) in Pharmaceuticals and fine chemicals /B.Tech in Pharmaceutical Chemistry and Technology / B.Pharm or equivalent B.Tech with pharmacy background only.
3	M.Tech. (Petrochemical Technology)	18	B.Chem.Engg. or B.E. / B.Tech. in Chemical Engineering/Chemical Technology/Petroleum Engineering ,B.Tech. (Polymer Engineering and Technology, B.E. (Polymer Engg. / Plastic Engg.), B.E. (Petrochemical Engineering/ Technology).
4	M.Sc. (Chemistry)	30	B. Sc. with Chemistry as major subject and Mathematics at H.S.C Level or equivalent

## 4.16 Ph.D. PROGRAMMES

The 25 Ph.D. programmes in various engineering and technology disciplines including basic sciences which are offered at ICTM-IOCB campus.

### Ph.D. COURSES OFFERED

Table 6.1: Different Specializations for Ph.D. Programmes

Sr. No.	Degree	Specialization
1	Ph. D. (Tech.)	Agrochemical Engineering
2		Bioprocess Technology
3		Chemical Engineering
4		Speciality Chemical Technology
5		Energy Engineering
6		Fibres and Textile Processing Technology
7		Food Biotechnology
8		Food Engineering and Technology
9		Green Technology
10		Lipid Engineering
11		Petrochemical Engineering
12		Pharmaceutical Technology
13		Pharmaceutical Chemistry
14		Plastics Engineering
15		Polymer and Materials Engineering
16		Surface Coating Technology
17		Electrical Engineering
18		Electronics Engineering
19	Ph.D. (Sci.)	Biochemistry
20		Biotechnology
21		Chemistry
22		Food Science
23		Mathematics
24		Physics
25		Textile Chemistry

All Ph. D. programs are now redesigned with course work as per UGC regulations.

## 4.17 ADMISSION PROCEDURE

### 4.17.1 ADMISSION TO FIRST YEAR OF INTEGRATED M.Tech. PROGRAM IN FOLLOWING COURSES

Admission for the academic year 2025-26 to Integrated M. Tech., Chemical Engineering (5 years, Integrated Masters in Technology after XIIth standard) programme offered at Institute of Chemical Technology, Mumbai: Indian Oil Odisha Campus, Bhubaneswar will be conducted by JoSAA/CSAB 2023. <https://josaa.nic.in/>

#### 4.17.1.1 APPLICATION PROCEDURE FOR i-M.Tech.

The admission to integrated M. Tech programme at Institute of Chemical Technology, Mumbai: Indian Oil Odisha Campus, Bhubaneswar will be purely based on the merit list generated from JEE Main-2023 and the counseling shall be done by JoSAA/CSAB 2023. The eligibility criteria for admission to iMTech program shall be as per the guidelines of JoSAA/CSAB 2023. <https://josaa.nic.in/>

#### 4.17.1.2 ELIGIBILITY CRITERIA AND INTAKE CAPACITY OF i-M.Tech.

HSC passed candidate or its equivalent examination with Physics, Chemistry and Mathematics as compulsory subjects along with valid JEE Main Score is eligible for application to this course through JoSAA counselling. The intake capacity for this course is 60.

##### Reservation:

As per Government of India rules, candidates belonging to certain categories are admitted to seats reserved as per seat matrix provided for ICTM-IOC Bhubaneswar at JoSAA portal. Benefit of reservation for admission to ICTM-IOCB shall be given only to those classes/castes/tribes which are in the respective central list published by the GoI.

#### 4.17.1.3 PROGRAMME STRUCTURE FOR i-M.Tech.

(Refer Section 6.2)

#### 4.17.1.4 ADMISSION FEES:

##### PROGRAMME FEES PRESCRIBED FOR INTEGRATED MTech:

The candidates to be admitted for iMTech course during 2025-26 are required to pay fees as prescribed by the institute. The institutional fees to be paid by all the admitted candidates are as follows. These are only indicative figures and likely to be changed:

Sr.	Type of Fees	Open And All Reserve Category Students Fee For 1 <sup>st</sup> Year (₹)
1.	Library Deposit	5,000/- (One Time)
2.	Fees	1,02,233/-
	TOTAL	1,07,233/-

**\*\*Note:** contingency amount for students admitted under various fellowships will be as per the norms of respective sponsoring funding agencies. Research contingency of Rs. 12,000/- will be added in the fifth year of fees. Admission fees may vary and it will be informed at the time of admission

### 4.17.2 ADMISSION TO TWO YEAR M.Tech. AND M.Sc. PROGRAMME PROGRAMMES OF STUDIES, ADMISSION CRITERIA AND CAPACITY

1. All Masters programmes enlisted under section 6.4 are full-time programmes of 2 years duration.
2. All M. Tech. Programmes are partly by papers (two semesters) and partly by thesis (two semesters) with fellowship for students who have valid GATE/GPAT Examination scores.
3. All M. Sc. Programmes are two-year programmes (four semesters) only by papers. No fellowships are available to any of the M.Sc. (by papers) Programmes.
4. For eligibility, the candidate should have passed any one of the Bachelor's degrees as mentioned in the required qualification for that respective programme mentioned under section 6.4. The candidate



should have passed a Bachelor's degree from ICT or any equivalent examination of a post-HSC/HSSC four-year degree programme of IIT/NIT or any university/institute recognized by UGC/AICTE. **For all the Postgraduate Programmes as listed in section 6.4, the candidate should have passed the required bachelor's degree with 60% marks in aggregate or equivalent CGPA. (55% marks in aggregate or equivalent CGPA for the backward class candidates)**

5. Any other equivalent degree of full four-year duration for that respective programme will be considered subject to clearance from the equivalence recognition committee of the Institute of Chemical Technology.
6. The selection for the AICTE fellowship shall be based on a valid GATE/GPAT score.
7. Reservation policy will be applicable as per the government norms.
8. Candidates are requested to refer to section 3.3.3 for details of admission criteria.

### Application Procedure for Master's Programmes

Candidates are requested to refer section 3.3.4 for details regarding application procedure for all masters programme at ICTM-IOC Bhubaneswar

#### Programme Fees Prescribed for Two Year M. Tech.:

The candidates to be admitted for two-year MTech course during 2025-26 are required to pay fees as prescribed by institute. The institutional fees to be paid by all the admitted candidates are as follows:

Sr.	Type of Fees	Open And All Reserve Category Students Fee For 1st Year (₹)
1.	Library Deposit	Rs. 5,000/-
2.	Fees	Rs. 1,00,000/-
	Total	Rs. 1,05,000/-**

\*\*Note: contingency amount for students admitted under various fellowships will be as per the norms of respective sponsoring funding agencies. Research contingency of Rs. 12,000/- will be added in the second year of fees. Admission fees may vary and it will be informed at the time of admission.

#### Programme Fees Prescribed for Two Year MSc.:

Sr.	Type of Fees	Open And All Reserve Category Students Fee For 1st Year (₹)
1.	Library Deposit	Rs. 5,000/-
2.	Fees	Rs. 76,500/-
	Total	Rs. 81,500/-**

\*\*Note: Admission fees may vary and it will be informed at the time of admission.

## 4.17.3 DOCTOR OF PHILOSOPHY (Ph.D.) PROGRAMMES

### 4.17.3.1 APPLICATION PROCEDURE

Admissions to Ph.D. Programmes at ICTM-IOC Bhubaneswar are conducted by the Institute of Chemical Technology, Mumbai Campus.

FOR ONLINE ADMISSION FORM VISIT <http://www.ictmumbai.edu.in>. Candidates are requested to refer section 3.4.4 for details of admission to Ph.D. programme.

### 4.17.3.2 INTAKE CAPACITY:

There is no prescribed intake capacity for any of the Doctoral courses/ branches since the number of available fellowships and the requirement by the research supervisors varies every year. Several research projects, either funded by various government agencies or private industries, have provisions for fellowships. No admission to a Ph.D. course is done without fellowship, although the amounts vary depending on the source of funding and the candidate's qualifications.

### 4.17.3.3 INSPIRE FELLOWSHIP FROM DEPARTMENT OF SCIENCE AND TECHNOLOGY, GOVT. OF INDIA

First Rank holders in masters degree in Engineering/Technology/Pharmacy/Science of any

UGC/AICTE recognized Indian University or Institute/Statutory Body in India can apply for award of INSPIRE FELLOWSHIP, a scheme of the Government of India to avail research grants for a period of five years for doing research leading to Ph.D. degree. Application format and necessary documents for application are available on the website [www.inspire-dstgov.in](http://www.inspire-dstgov.in). Eligible candidates should apply directly to DST and after getting provisional acceptance, they may be considered for admission at ICT, subject to fulfillment of other criteria.

#### 4.17.3.4 AICTE NATIONAL DOCTORAL FELLOWSHIP (NDF) SCHEME

AICTE offers Ph.D. fellowships of Rs 28000 per month plus HRA in a few selected institutes including ICT in all branches of engineering and technology as well as pharmacy. AICTE QIP will also include ICT for faculty members desirous of enrolling for doctoral degrees. Watch for their advertisement.

Visit the following two websites.

<http://www.aicte-india.org/content/national-doctoral-fellowship-ndf>

<https://ndf.aicte-india.org/appHome.html#!/>

#### 4.17.3.5 UGC/CSIR FELLOWSHIPS

Candidates are requested to visit the websites of these bodies for details of fellowships available with them under different criteria. All PhD students admitted to any branch in ICT must receive a fellowship from some funding agency or industry or collaborative programmes or exchange scheme.

#### 4.17.3.6 ELIGIBILITY CRITERIA FOR ADMISSION TO Ph.D. (Tech.)/ Ph.D. (Sci.)

- For Ph.D. (Tech.) course at Sr. No. 1, 3, 5 and 11 in Table 6.2, the candidate must have passed the Master's degree examination in the Agrochemical Engineering / Chemical Engineering / Chemical Technology (any branch at ICT)/ Pharmacy/ Plastic Engineering of ICT/ [(M.E in Petrochemical Engineering/ Environmental Engineering) (Provided Bachelor Degree in Chemical Engineering)] or any other UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved category).
- For PhD (Tech.) course at Sr. No. 2 in Table 6.2 must have passed Master's degree examination in the Chemical Engineering/Bioprocess Technology/ Chemical Technology (any branch at ICT)/ Pharmacy/M. Tech. Biotechnology/Biochemical Engineering/ or any other UGC recognized university as equivalent there to with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved category).
- For Ph.D. (Tech.) courses at Sr. No. 4, 6, 9, 10, 12, 13, 14, 15 and 16 in Table 6.2, the candidate must have passed the Master's degree examination in the Chemical Engineering / Chemical Technology (any branch at ICT)/ Pharmacy/ Plastic Engineering of ICT or any other UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved category).
- For Ph.D. (Tech.) courses at Sr. No. 17-18 in Table 6.2, the candidate must have passed the Master's degree examination in Electrical / Power systems / Control systems / Instrumentation from any UGC recognized university as equivalent thereto with 60% marks or equivalent CGPS (55% marks or equivalent CGPA in case of reserved category).
- For Ph.D. (Tech.) course at Sr. No. 7 in Table 6.2 must have passed the Master's degree in Food Engineering and Technology / Food Technology/ Biotechnology/ Food Biotechnology/ Food and Biochemical Engineering/ Chemical Technology (any branch at ICT)/ Chemical Engineering of any UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA 55% marks or equivalent CGPA in case of reserved category.
- For Ph.D. (Tech.) course at Sr. No. 8 in Table 6.2 must have passed the Master's degree in Food Engineering / Food Technology/ Food and Biochemical Engineering/ Chemical

Technology (any branch at ICT)/ Chemical Engineering of any UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA 55% marks or equivalent CGPA in case of reserved category

- For Ph.D. (Sci.) courses at Sr. No. 19 and 20 in table 6.2, the candidate must have passed the Master's degree examination in any biological faculty of science of any university recognized by UGC with minimum of 55% marks or equivalent CGPA (50% MARKS OR EQUIVALENT CGPA in case of reserved category)
- For Ph.D. (Sci.) courses at Sr. No. 21, 23 and 24 in Table 6.2, the candidate must have passed the Master's degree examination in the respective Subject of any University recognized by UGC with minimum of 55% marks or equivalent CGPA (50% marks or equivalent CGPA in case of reserved category).
- For Ph.D. (Sci.) course at Sr. No. 22 in Table 6.2, in Food Science the candidate must have passed the M. Sc examination in Food Science, Food Processing, Nutrition, Home Science, Post harvest Technology, Horticulture, Dairy Science, Biochemistry, Microbiology, Organic Chemistry of any UGC recognized University as equivalent thereto with 60% marks or equivalent CGPA (55% marks or equivalent CGPA in case of reserved category).
- For Ph.D. (Sci.) course at Sr. No. 25 in Table 6.2, in Textile Chemistry, the candidate must have passed the M. Sc. examination in Textile Chemistry/ Textile Clothing/ Life Sciences/ Biochemistry/ Microbiology/ Chemistry of ICT or of any University recognized by UGC with minimum of 55% marks or equivalent CGPA (50 % marks or equivalent CGPA in case of reserved category).
- Further, candidates from any of these streams must clear the written test of the institute which are based on the syllabus.
- The candidates who have passed the Master's degree by Research of any University recognized by UGC may be considered for admission only if they hold fellowship from any recognized funding agency.
- The candidates qualified in NET/ GATE/ GPAT/ CSIR/ DBT/ - JRF examinations or other equivalent examinations and holding valid fellowship will be preferred.
- Apart from regular full time on- campus candidates, following candidates are also eligible for admission to Ph.D. (Tech.)/ Ph.D. (Sci.):
  - (i) Permanent full-time teachers of College/ Institute
  - (ii) Employees of National laboratories/ Government Institutions
  - (iii) Employees of Industry
- However, persons qualified in NET/ CSIR/ DBT-JRF and holding valid fellowship obtained from Government funding agencies such as DST, ICMR, UGC, CSIR, etc. are exempted from the entrance written Test. Admissions to such candidates are open throughout the academic year.

#### **4.17.3.6.1 ELIGIBILITY CRITERIA FOR TEACHERS FOR ADMISSION TO Ph. D. (Tech.)/ Ph. D. (Sci.)**

Following are the requirements in addition to the criteria mentioned under heading 3.3.3.1. above.

- a) The candidate should be a permanent teacher having full time teaching experience of at least two years in Degree College or five years in Junior college / Diploma College / Polytechnics (affiliated to statutory bodies).
- b) Teachers who have been in the service of any Engineering and Technology College approved by the UGC/AICTE are entitled for registration for Ph. D. (Tech.) with the faculty of the ICT.
- c) Teachers who have been in the service of any Science College approved by the UGC are entitled for registration for Ph. D. (Sci.) with the faculty of the ICT.
- d) The college management should undertake the responsibility of releasing the candidate for course work, experimental work or discussions with the concerned research guide from time to time. A proper time table should be prepared by the concerned teacher and his supervisor,



which will be approved by the Head of Department/ Centre Co-ordinator. A bond in this regard should be signed and approved by the Vice Chancellor, ICT.

- e) Teachers can work in the ICT laboratories during vacations and holidays and after their office hours if they come from colleges in the city or nearby. They must indicate on which date they will avail of the research facilities in ICT. A proper log book must be maintained by the candidate duly signed by his supervisor which will be authenticated by the Head of Department/ Centre Co-ordinator.
- f) A maximum period of 5 years extendable by 1 year will be allowed in case of teachers who carry out research part time but put in at least 3 months full time work in a year in the ICT labs. In such cases, part of the experimental work could be allowed to be done in their premises for which their management will provide them with necessary facilities. The characterization and other sophisticated analysis must be done in ICT. Exclusive theoretical work should be discouraged as much as possible to give the teachers a hands-on experience and to bring them into an environment of research. However, this will be left to the individual supervisor's discretion, who should take abundant precaution to avoid unethical practices.
- g) The registered candidates will be required to publish or patent some part of their work within two years of the registration otherwise this registration will not be continued. The publication must be done in peer reviewed international journals. Multi-authored papers without much input from the teacher should be avoided. Conference proceedings which are not peer reviewed will not be considered as publications.
- h) Teachers registering themselves as Ph.D. student of ICT should not register any Masters students with themselves in his/her own college to avoid research by proxy. The candidate as well as his/her supervisor must give an undertaking, with a counter signature of the concerned principal to this effect to avoid degeneration of this novel concept into a Ph.D. by unscrupulous means.
- i) If the teacher intends to join the ICT on leave without pay for a period of three years, then the candidate may be eligible for the UGC fellowship under our SAP programme, provided he/she successfully clears the Institutional entrance tests.
- j) All regular admissions criteria are applicable to these candidates and they must also do the course work required for Ph.D. programme.

#### **4.17.3.6.2 ELIGIBILITY CRITERIA FOR CANDIDATES WORKING IN NATIONAL LABORATORIES/ GOVERNMENT INSTITUTIONS FOR ADMISSION TO Ph.D.(Tech.) / Ph.D.(Sci.)**

Following are the requirements in addition to the criteria mentioned under heading 3.3.3.1. above.

- a) The candidate should be a permanent employee working in National Laboratories/ Government Institutions having minimum 2 years of service.
- b) The management of the organisation should undertake the responsibility of releasing the candidate for course work, experimental work or discussions with the concerned research guide from time to time. A proper time table should be prepared by the concerned candidate and his supervisor, which will be approved by the Head of Department/ Centre Co-ordinator. A bond in this regard should be signed and approved by the Vice Chancellor, ICT.
- c) Such candidates can work in the ICT laboratories during holidays and after their office hours if they come from organisation in the city or nearby. They must indicate on which date they will avail of the research facilities in ICT. A proper log book must be maintained by the candidate duly signed by his supervisor which will be authenticated by the Head of Department/ Centre Co-ordinator.
- d) The registered candidates will be required to publish or patent some part of their work within two years of the registration otherwise this registration will not be continued. The publication must be done in peer reviewed international journals. Multi-authored papers without much input from the teacher should be avoided. Conference proceedings which are not peer reviewed will not be considered as publications.
- e) All regular admissions criteria are applicable to these candidates and they must also do the

course work required for Doctoral programme.

#### 4.17.3.6.3 ADMISSION FOR INDUSTRY -SPONSORED IN-HOUSE CANDIDATES TO Ph.D. (Tech.) / Ph.D. (Sci.)

Following are the requirements in addition to the criteria mentioned under heading 3.3.3.1. above.

1. The candidate should have minimum 2 years of industrial experience.
2. Industry should have a well-equipped Research and Development and Quality Control laboratory with at least one Ph.D. employee working in the set up in the relevant area.
3. Industry is required to get recognition from ICT by the following procedure:
  - i. After receiving request from an industry, a Committee appointed by the Vice Chancellor, ICT will make a visit to the industry laboratory. The ICT appointed Committee will consist of Dean (RCRM) as Chairman with a Professor nominated by the Vice Chancellor and the Head of the Department in the area of proposed research.
  - ii. The committee will evaluate the activities and the competence of the R and D of industry following the guidelines of similar to those proposed by DSIR. All the expenses in connection with the visit will be borne by the industry concerned. The ICT committee will make recommendations to the Vice Chancellor, ICT for approval. The industry R and D will be recognized by the approval of the Vice Chancellor, ICT. In case the laboratory is already recognized by DSIR, the visit by ICT committee will not be necessary.
  - iii. Once the R and D laboratory is recognized by the ICT, the industry is required to pay Rs. 5 lakhs for first four years (typical duration of Ph.D. work) and necessary contingency amount of Rs. 50,000/- per candidate per year (in the name of ICT, to be utilized by the Research Guide) for the conduction of the research activity. After four years, the renewal of the recognition will continue by payment of Rs. 1 lakh per year. Further, the industry should try to get recognition for their R and D set up from DSIR, based on the recommendation of the ICT appointed Committee.
4. During a year, an industry may nominate up to two employees (with required qualification) for registering for the doctoral degree at ICT under the supervision of ICT faculty.
5. The candidate is required to pay all the Ph.D. fees (over and above laboratory eligibility fees) as proposed by the ICT at appropriate time and will not be eligible for any fellowship. Also, the other requirements, like eligibility criteria, qualifying institutional tests, completion of course work, etc. need to be fulfilled by the industry candidate.

#### 4.17.3.7 ADMISSION FEES

The candidates admitted to Ph.D. programme for AY 2025-26 are required to pay fees as prescribed by the institute. The institutional fees to be paid by all the admitted candidates are as follows:

Ph.D. (Tech.)/ Ph.D. (Sci.)

Sr. No.	Type of Fees	Open and All reserve category students Fee for 1 <sup>st</sup> Year (Rs.)
1.	Library Deposit	Rs. 5,000/- (one time deposit)
2.	Fees	Rs. 96,250/-
	TOTAL	Rs. 1,01,250/-

#### 4.17.3.8 EXAMINATION PATTERN

Please refer ICT, Mumbai campus for Examination Pattern given in section 3.4.

#### 4.17.4 REQUIREMENT OF ATTENDANCE

Please refer ICT, Mumbai campus for attendance rule.

#### 4.17.5 IDENTITY CARD

At the beginning of each academic year, a regular bonafide student is issued a smart Identity Card

with his/ her latest photograph printed it, on payment of the necessary charges. The students must wear the I-card while on campus. I-card is also necessary for appearing at all tests and examinations. If a student leaves the course halfway, after taking admission, he/she must surrender the I-Card in the Academic office.

#### 4.17.6 WORKING HOURS

- (a) Academic Timings: The academic working hours of the institute are between 8.30 a.m. to 5.30 p.m., with lunch break from 12.35 to 1.30 p.m.
- (b) Office Hours: 9.30 a.m. to 5.30 p.m., with lunch break from 1.15 to 1.45 p.m. - on all working days.

The office will remain closed on second and fourth Saturdays of a month, in addition to Sundays and public holidays

#### 4.17.7 GENERAL

The medium of instruction for all courses is English.

Physical fitness: The Vice Chancellor at his discretion may refer any candidate to the appropriate medical authority for ascertaining the physical fitness of the candidate to undergo the requirements of the course.

The report of medical authority and the action taken by the Vice Chancellor shall be submitted to the Regional Head of Technical Education for information. It is to be noted that physically handicapped candidates are not provided with any additional facilities as far as the academic activities pertaining to the course is concerned.

The Vice Chancellor may verify the antecedents of any candidate through the appropriate police authority.

The report received from police authority and the action taken by the Vice Chancellor shall be submitted to the Regional Head of Technical Education for information.

Notwithstanding anything contained in these Rules, if the Govt. / Institute takes any policy decision pertaining to first year admissions, the same shall be brought in to effect at that point of time.

#### 4.17.8 CONDUCT AND DISCIPLINE FOR ALL STUDENTS:

Students while studying at ICT, if found indulging in any anti-national activity contrary to the provisions of Acts and Laws enforced by Government or in any activity contrary to Rules of discipline, will be liable to be expelled from the Institute without any notice by the Vice Chancellor of the Institute.

Action against ragging: Maharashtra Prohibition of Ragging Act 1999 which is in effect from 15th May 1999 has the following provisions for Action against Ragging.

- a) Ragging within or outside of any educational institution is prohibited,
- b) Whosoever directly or indirectly commits, participates in, or propagates ragging within or outside any educational institution shall, on conviction, be punished with imprisonment for a term up to 2 years and/ or penalty, which may extend to ten thousand rupees.
- c) Any student convicted of an offence of ragging shall be dismissed from the educational institution and such student shall not be admitted in any other educational institution for a period of five years from the date of order of such dismissal.
- d) Whenever any student or, as the case may be, the parent or guardian or a teacher of an educational institution complains, in writing, of ragging to the head of the educational institution, the head of the educational institution shall, without prejudice to the foregoing provisions, within seven days of the receipt of the complaint, enquire into the matter mentioned in the complaint and if, prima facie, it is found true, suspend the student who is accused of the offence, and shall, immediately forward the complaint to the police station having jurisdiction over the area in which the educational institution is situated, for further action. Where, on enquiry by the head of the educational institution,



it is found that there is no substance, prima facie, in the complaint received; he/ she shall intimate the fact, in writing, to the complainant. The decision of the head of the educational institution shall be final.

- e) If the head of the educational institution fails or neglects to act in the manner specified in section “d” above when a complaint of ragging is made, such person shall be deemed to have abetted the offence and shall, on conviction, be punished as provided for in section “b” above.

If any of the statement made in application form or any information supplied by the candidate in connection with his or her admission is later on at any time, found to be false or incorrect, his or her admission will be cancelled, fees forfeited and he or she may be expelled from the Institute by the Vice Chancellor.

Note: The orders issued by the Hon’ble Supreme Court/High Court/Government regarding Prohibition of Ragging Act, will be made applicable as and when issued. The same shall be binding on all concerned.

## 4.18 RULES AND REGULATIONS ABOUT RESERVATION

Reservation in admission only for SC/ST/OBC categories on All India basis is applicable to all the Integrated Masters’ courses.

### 4.18.1 CASTE CERTIFICATE AND CASTE/ TRIBE VALIDITY CERTIFICATE

- a) Caste Certificate: The candidates belonging to the backward class category will be required to submit the Caste Certificate at the time of admission, failing which the category claimed will not be granted and the candidate will be treated as a General Candidate.
- b) Caste Validity Certificate: The candidates belonging to the SC/ST/OBC category will be required to submit the Caste/Tribe Validity Certificate at the time of admission, failing which the category claimed will not be granted and the candidate will be treated as a General Candidate.

## 4.19 CANCELLATION OF ADMISSION AND REFUND OF FEES:

Refund of tuition fee, development and other fees after cancellation of admission secured at ICT. Candidate who has been admitted to ICT may cancel admission by submitting an application in duplicate, in the prescribed Pro forma - E and request for refund of fees. The refund of fees as applicable shall be made in due course of time. It is made clear that such application for cancellations will be considered if and only if the admission has been confirmed by paying the prescribed tuition fee and other fees in full and by submitting all the necessary original documents. Refund shall be made after deduction of cancellation charges as shown below -

Sr.	Situation	Refund
1	Request received before the date of start of academic session	Entire fee less Rs.1000/-
2	Request received after the date of start of academic session	Entire fee less the total fee for one month. (Tuition, development, other and hostel fee)
3	Request received after 30 days from the date of start of academic session	No refund (except Library Deposit)

Notes:

- Academic session means start of lectures, which will be displayed on the ICT website and Notice Board.
- For calculation of amount on the pro-rata basis, one month shall be treated as one unit.
- Students admitted under reserved category are hereby informed that if any student leaves the course in – between, He/She has to pay full fees for that Academic Year.

**All Rights regarding the admissions at the ICT are reserved with the Vice Chancellor, ICT.**



# ICT Marathwada Campus, Jalna









## MESSAGE FROM THE DIRECTOR



*Dear Aspiring students and parents,*

It is with great honor and enthusiasm that I address you as the Director of ICT Marathwada Jalna Campus. Under the stewardship of Honourable Vice Chancellor Prof. A. B. Pandit our campus stands as a vital extension of the prestigious Institute of Chemical Technology (ICT), which has been a beacon of scientific excellence and nation-building since its foundation in 1933. Born from the collaboration of industry leaders and alumni from the Marathwada region, ICT Jalna reflects a shared commitment to nurturing the brightest minds in one of India's most important industrial hubs.

ICT is renowned for producing not only competent engineers but visionary entrepreneurs and leaders who drive progress across the nation. Our campus continues this proud tradition, providing students with an education grounded in both rigorous academic theory and practical industrial application. The future of our nation's industries relies on the scientific breakthroughs and innovative solutions that emerge from our institution, and I am thrilled to have you as part of this legacy.

The world of chemical sciences is ever-expanding, moving beyond the confines of traditional industrial chemistry to embrace exciting new fields such as biotechnology, nanotechnology, materials engineering, health and medicinal sciences, and agricultural technology. At ICT Jalna, we strive to lead the charge in these emerging disciplines, ensuring that our students not only learn but push the frontiers of knowledge.

Our flagship **integrated M. Tech. program** is a pioneering model, blending a major in Chemical Engineering with minors in specialized chemical technologies. This cutting-edge course structure ensures that students are equipped not just with textbook knowledge but with hands-on industrial experience, making them industry-ready from the moment they graduate. This program, with its focus on real-world applications, truly sets our graduates apart.

What sets ICT Jalna apart is our symbiotic relationship with industry. We are constantly engaging with industry leaders, alumni, and experts to ensure that our programs remain relevant and innovative. **The Local Advisory Committee** plays a crucial role in ensuring that we stay connected to the needs of the region and the nation.

We also foster an active and vibrant campus life. Students at ICT Jalna benefit from regular interactions with industry experts through pep talks, seminars by leading academicians, factory visits, and video conferences with scientists from around the world. Our **Industry Defined Problem (IDP)** competitions, **Science Quizzes**, and cultural celebrations enrich the overall experience, helping students develop both technical skills and a sense of community.

At ICT Jalna, innovation is not just encouraged—it is a way of life. Our research efforts are geared toward producing sustainable solutions that positively impact society. Whether it's developing new processes for industries, advancing agricultural practices, or contributing to healthcare, our work is grounded in real-world relevance.



Beyond academics and research, ICT Jalna is dedicated to the well-being and growth of its students, faculty, and staff. We believe that a happy, fulfilled community is key to driving innovation and excellence. From **well-equipped libraries and e-libraries to gym and outdoor sports facilities**, our campus is designed to ensure a balanced and holistic educational experience.

Our journey forward is both exciting and filled with promise. Together with our sister campus, ICT-IOC Bhubaneswar, we are pioneering new models of education, preparing students to be leaders in industries from the moment they step out into the world. These campuses are not only educational institutions but engines of innovation and social progress.

I welcome all future students, faculty, and staff to embark on this transformative journey with us. Choosing ICT Jalna means becoming a part of a rich legacy that will define the future of chemical sciences and industrial innovation in India. I am confident that your time here will be rewarding and full of opportunities to excel and innovate. **Join us, and together, we will continue to push the boundaries of knowledge, contribute to nation-building, and shape a brighter, sustainable future.**

**Prof. Shashank T. Mhaske** *FMASc*

DIRECTOR, Institute of Chemical Technology (ICT),  
Marathwada Campus, Jalna

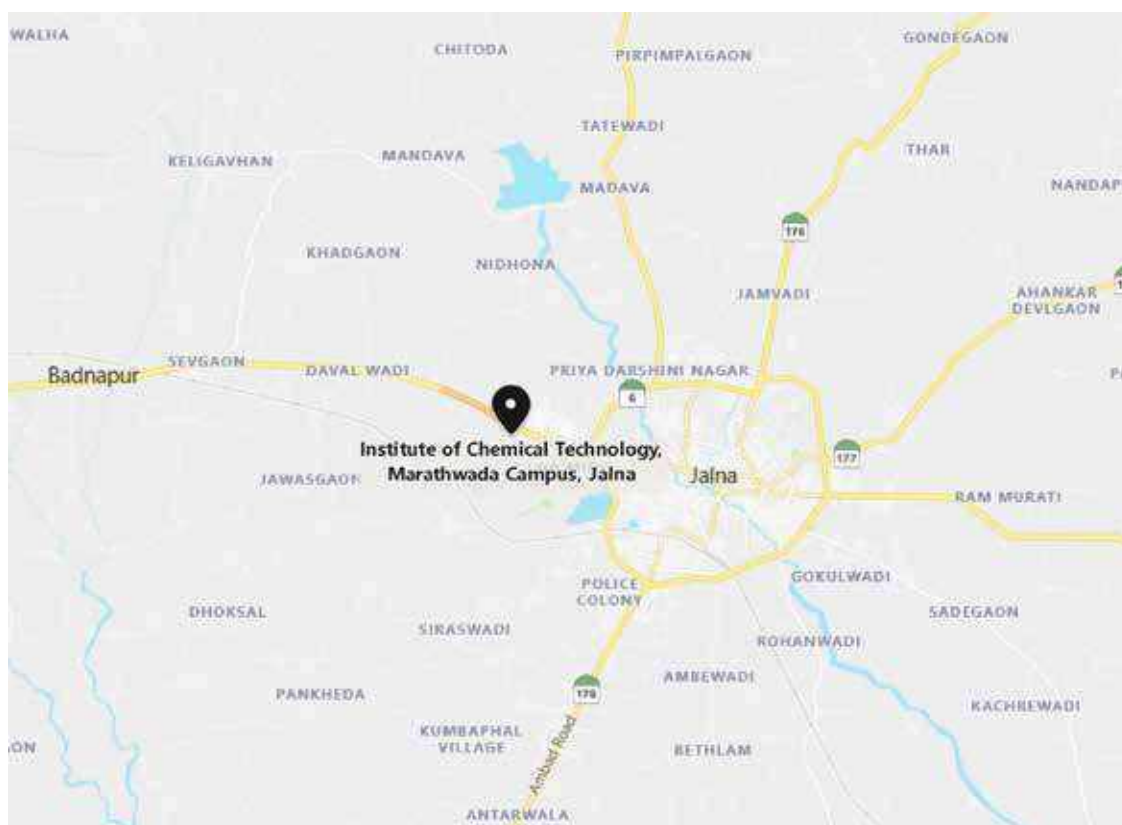


## 5.2 IMPORTANT INSTRUCTIONS

1. The admission form for the academic year 2022-23 may be filled online on the ICT website, <http://www.ictmumbai.edu.in/DisplayPage.aspx?page=geandItemID=5>
2. Anybody, not belonging to the Reserved Category, is found applied under that category will be disqualified.
3. Please read the Handbook carefully before filling the admission form.
4. Due to circumstances beyond control of authorities, the schedule of admission may change and it will be notified on the website. Candidates are advised to visit the website regularly.
5. Merit list/ schedule of admission rounds for all PG courses will be displayed on [www.ictmumbai.edu.in](http://www.ictmumbai.edu.in) and the ICT Notice Board. Please note that no individual correspondence will be made in this regard and it is the responsibility of the candidates to visit the webpage regularly. PG candidate must visit ICT website time to time to check the timetable for written test and interview and changes if any.
6. Pleading ignorance about information displayed on the web shall not be entertained.
7. Admission to hostel on the Marathwada Campus, Jalna is as per the rules laid down and the quota for various courses.
8. Biometric attendance system is adopted for all classrooms and Laboratories.
9. There are no agencies operating on behalf of the institute and there is no capitation fee or donation in regard with admissions. Be careful of any persons claiming to offer admission to the ICT or knowing authorities. No extraneous considerations should be brought to exert pressure on the Admission Committee. It will be strictly dealt with. We take pride in fairness and openness in admissions and all matters and give justice to one and all.
10. All correspondence regarding admissions at Marathwada Campus Jalna should be addressed to Director, Institute of Chemical Technology, Marathwada Campus Jalna ([admissions@marj.ictmumbai.edu.in](mailto:admissions@marj.ictmumbai.edu.in); +91 7378468193).







## 5.3 APPROACH ROUTES TO ICT MARATHWADA CAMPUS AND LANDMARKS

A location map of the ICT, available on Google maps, is provided above and the various access routes are described from nearby railway stations, bus stops and the airport of Aurangabad

### Landmarks in the vicinity of ICT

M/s Beej Sheetal Innovations Centre Pvt. Ltd, BT-5 Biotechnology Park, Jalna Industrial Area MIDC, Additional MIDC, Aurangabad Road, Jalna, Maharashtra 431213 is a rented building by ICT, Marathwada Campus Jalna. It is on Aurangabad Highway near Sunrise Rajasthani Dhaba.

- A From Jalna Railway Station:** -Directions from Railway Station road to ICT, Marathwada Campus, Jalna. The ICT can be reached in about 15 minutes on foot following Bhagyanagar, Moti Talab, and Chandanzira, take a left turn from Sunrise Rajasthani Dhaba.
- B From Bus Stand Jalna:** -Directions from Jalna Bus Stand to ICT, Jalna Campus via Bhokaradan Naka straight on Priyanka Motors road, Hotel Flora inn and take a left turn from Sunrise Rajasthani Dhaba.
- C From Aurangabad Airport:** - Directions from Aurangabad Airport to ICT Marathwada Campus Jalna, via Aurangabad - Nagpur Rd/Jalna - Aurangabad Rd/Nagpur - Aurangabad - Mumbai Highway can be reached in 51 min. From Jalna toll, the Institute is about 1 km on the right turn from Sunrise Rajasthani Dhaba.

<https://www.google.com/maps/search/ict+jalna+marathwada/@19.90499,75.8848323,11z>



## 5.4 ABOUT ICT MARATHWADA CAMPUS JALNA:

Category I status enabled Institute of Chemical Technology, Mumbai to have additional off-campus apart from that in Mumbai. Institute of Chemical Technology (Mumbai) Marathwada campus Jalna, fondly known as ICT-MARJ, was established on 4<sup>th</sup> May 2018 with the assistance of the Government of Maharashtra. It was entrusted with the legacy of ICT and has paved a distinctive and innovative path. Padma Vibhushan Professor M.M Sharma inaugurated the Academic endeavor of MARJ on 28<sup>th</sup> August 2018.

### VISION

To be a vibrant educational institute with innovative programs and research culture in the field of chemical and allied sciences.

### MISSION

- Produce trained engineers and problem solver research fellows.
- Develop science and technologies of global standards having relevance to India as well as to local Industry from Marathwada region.
- Develop entrepreneurship and provide incubation centres for encouraging Start-ups in Marathwada Region. Catalyse the process of generating wealth from knowledge creating bridge among industry, agriculture, environment and society.

## LOCAL ADVISORY COMMITTEE

LAC is formed to guide and facilitate solving local problems on the Campus. The current members are as follows:

Sr.no.	Name	Designation
1	Prof. A. B. Pandit	Chairman, Vice Chancellor
2	Prof. S. T. Mhaske	Director, ICT MARJ
3.	Shri. B. S. Khose	Chairman, UAA Marathwada Chapter
4.	Shri. Nitin Gupta	President, CMIA/Nominee
5.	Shri. Mahendra Bagadi	President, Rotary Club of Jalna
6.	Dr. Shrikrushna Panchal	District Collector, Jalna
7.	Shri. Santosh Khandekar	Municipal Chief Officer, Jalna
8.	Shri. Akshay Joshi	I/c Jt. Director, DTE, Chh. Sambhajinagar Region
9.	Shri Suresh Agarwal	Chairman, Beej Sheetal
10.	Shri. Ashish Mantri (VC's Nominee)	M. D., Shri Hari Nutrition
11.	Shri Ranjeet Gulati (VC's Nominee)	M. D., Priya Chemicals
13.	Shri. Prasad Kokil	C. M. D., Sanjay Techno Group
14.	Shri. Sunil Raithatha	M. D., Vinodrai Engineering
15.	Shri Ghanshyam Goyal	C. M. D., Kalika Steels
16.	Shri. Nitin Kabra (Invitee)	Director, Bhagylaxmi Steels
17.	Shri. G. D. Agarwal (Invitee)	Director, Crystal Surfactants
18.	Campus Coordinator	Member Secretary

## ANNUAL FEST ICT MARJ - 2025

Institute of Chemical Technology Marathwada campus Jalna organized its annual event which composed of an amalgamation of technical, sports and cultural activities for the holistic development of students. The event was organized in the ending of January and starting of February.

### Technological Association-MARJ

Technological Association of the Institute of Chemical Technology, Marathwada Campus, Jalna, celebrates the various fests, including technical, sports, and cultural activities for the holistic development of students.

### Technical Fest – AAKRITI

The event was focused on technical activities, and the participants had various brainstorming events, which consisted of the following.

1. Byte Bonanza (The quiz game)- Participants were given various questions on their technical fields as well as some latest updates on it
2. Clash of Minds (The group discussion)- This event had two sets composed of Undergraduates and postgraduates along with PhD. It was a group discussion on a current topic in the respective technical field.
3. Poster relay- To continue the legacy of the research atmosphere in ICT, a poster competition was organized. Students from various departments made posters based on their research and presented them to the judges.
4. Cryptic hunt: This was a treasure hunt organized on campus.
5. Periodic bingo: A bingo was organized based on the periodic table for the budding chemical engineers

### Sports Fest - URJA

Considering the importance of the fitness of students, various sports events were organized under “Urja Fest. This was also done with the government of India’s initiative of Khelo Bharat. The sports activities conducted included various indoor events such as chess, table tennis, and carrom, along with outdoor events such as Kabaddi, volleyball, kho-kho, cricket and badminton. The event saw a tough fight between various teams and a spirit of sportsmanship in the students.

### Cultural Fest - MALANG

The cultural fest “Malang” celebrates the cultural diversity of our country and appreciates the artistic talent of the students of ICT MARJ.

The various events will consist of multiple activities. There were dance performances, songs, and poems performed by the students and faculty of the campus, along with antakshari, Prom and DJ night. It comprises different cultural clubs like Swarankur Music Club of ICT MARJ.



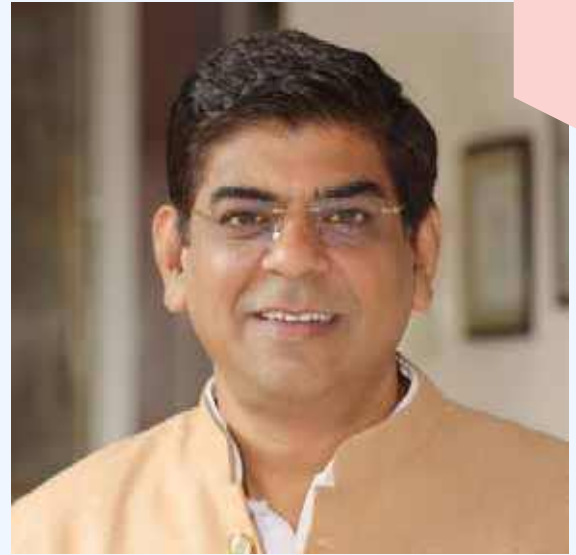


# FACULTY PROFILE

ICT Marathwada Campus,  
Jalna



Institute of Chemical Technology Mumbai  
Marathwada Campus Jalna



**PROF. SHASHANK T. MHASKE**

*FMASc*

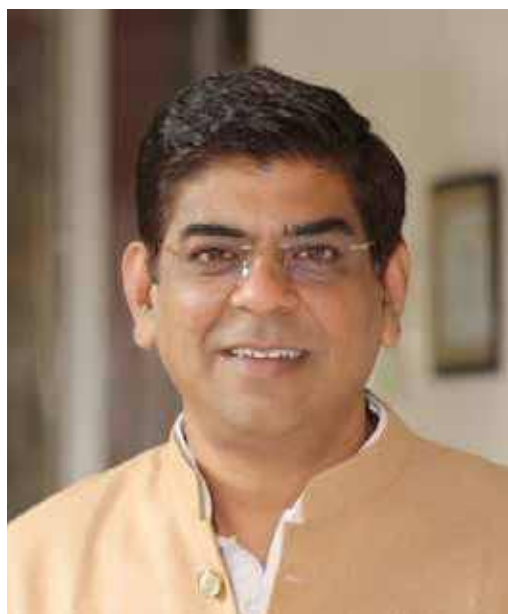
*B.Tech., M.Sc. (Tech.), Ph.D. (Tech.)*

**Professor of Food Chemistry**

**DIRECTOR,**

**ICT-Mumbai Marathwada Campus,  
Jalna**





**PROF. SHASHANK T. MHASKE** *FMASc*

*B.Tech., M.Sc. (Tech.), Ph.D. (Tech.)*

**Director, ICT Marathwada Campus, Jalna**

**Department: Food Engineering and Technology**

**Research Interests:**

Development of eco-friendly materials for sustainable polymeric systems and advanced coatings, Novel Routes for Polymer Synthesis like ROMP, Ultrasound Assisted, Microwave Assisted etc., Design and optimization of biofilm-resistant and sustainable packaging films, Development of specialized adhesives, including hot-melt, pressure sensitive, and bio-based formulations

**Recognized Research guide for:** M. Tech/ Ph.D. (Tech) in Polymer Engineering & Technology, M. Tech/ Ph.D. (Tech) in Surface Coating Technology, M. Tech/ Ph.D. (Tech) in Green Technology, Ph. D (Science) in Chemistry, Guided Students: Ph. D.: Completed 19, Ongoing 17; Masters: Completed 89, Ongoing 15., Publications: 209, **H-Index:** 32, **Citations:** 4304, PDF, If any: 0, National: 8, International: 175, Patents: Granted 06 (04 Indian & 02 European), Applied 02

**National And International Awards**

- National Award for Technology Innovation in “Green Polymeric Materials & Products” by Department of Chemicals and petrochemicals, Ministry of Chemicals and fertilizers. Govt. of India.
- Academic Excellence Award by BAERLOCHER India Additives Pvt. Ltd.
- Best Teacher Award: Institute of Chemical Technology, Mumbai, Department of Polymer and Surface Engineering (Year: 2015 and 2024)
- Best Teacher Award: from BAERLOCHER India Additives Pvt. Ltd.





### Dr. PARAG R. NEMADE

*B. Chem. Eng., M. S. and Ph.D. (University of Colorado)*

**Associate Professor, Chemical Engineering**

**Department: Chemical Engineering**

#### Subjects Taught:

Advanced Membrane Separations, Nanotechnology, Advanced Momentum Transfer, CE Lab, Introduction to Chemical Engineering, Materials and Energy Balance Calculations, Chemical Engineering Thermodynamics I, Momentum Transfer

#### Research Interests:

Synthesis of functionalized 2D nanomaterials and nanocomposites for oxidation, heterocyclization, energy storage, catalysis, metal-doped and heterojunction photocatalysts under solar and UV light, sustainability engineering, biomass valorization, **Recognized Research guide for:** Ph. D. (Tech) in Chemical Engineering, Oils, Oleochemicals and Surfactant Technology, Ph.D. (Sci.) in Chemistry, Guided Students: Ph.D.: 08, Masters: 32, Publications: National 01, International 27, **H-Index:** 16, **Citations:** 1442, **Patents Published:** 03, **Patents Granted:** 22, **Patents Published:** 3, **Patents Granted:** 5



### DR. MANOJ B. GAWANDE

*PhD Chemistry, Doc (Habilitation), FRSC*

**Associate Professor**

**Department: Chemistry**

#### Subjects Taught:

Organic Chemistry, Research Methodology, Research Ethics, Green Chemistry and Catalysis

#### Research Interests:

Single-atom catalysts, Nano-Chemistry, Organic synthesis via Nano-catalysis, Nanomaterial's synthesis and its applications in energy, Flow reactor catalytic reactions, Continuous flow-MS monitoring organic transformations.

Visiting Professor (June 2023 –till date) VSB–Technical University of Ostrava, Czech Republic; Visiting Professor (2019-2023): Palacky University, Olomouc, Czech Republic; Associate Professor (2013-2019): Palacky University, Olomouc, Czech Republic; Visiting Professor (May 2013 -June 2013) Nanyang Technological University, Singapore; Research Associate (2010 -2013): Faculty of Science and Technology, New University of Lisbon; BK-21 Postdoc fellow (2009-2010); Kyungpook National University, Daegu, South Korea; **Recognized Research Guide for:** Chemistry, Guided Students: Ph. D: 04, H-Index: 56, **Citations:** 18500, Papers Published: 175, **Patents Granted:** 01

#### National And International Awards:

- Material Research Society of India (MRSI) Award - 2024
- STE Green Excellence Award - 2022
- Top 2% scientists from 2019 - 2023
- Fellow of Maharashtra Academy of Sciences (FMASc) - 2021
- Life Fellow of the Indian Chemical Society, India - 2021
- Life Member of Chemical Research Society of India
- FRSC 2017 -Fellow of Royal Society of Chemistry (FRSC), UK
- Docent/ 'Associate Professor' nominated by rector of Palacky University, Olomouc Czech Republic.
- Deans Award for the year 2015 and 2016 By Dean of Palacky University, Olomouc, Czech Republic for the best publications output in eminent journals



### Dr. DEBASHIS KUNDU

Ph.D.

Assistant Professor



**Department: Chemical Engineering**

#### SUBJECTS TAUGHT

Thermodynamics – I, Chemical Engineering Thermodynamics-II, Chemical Process Control, Advanced Transport Phenomena, Advanced Thermodynamics of Energy Systems, Petroleum Economics and Management, Process Simulation Laboratory, Chemical Engineering Laboratory

#### RESEARCH INTERESTS:

Thermodynamics, Molecular dynamics simulation, Quantum Chemical calculation, Enhanced oil recovery, Gas hydrate, Polymeric gel, Electronic-waste valorisation, Neoteric solvents

**Recognized Research guide for:** Chemical Engineering

Guided Students: Ph.D: 03 (Ongoing), Masters: 29

Publications: International: 63, **H-Index:** 16, **Citations:** 877

#### NATIONAL AND INTERNATIONAL AWARDS

- Ambuja's Young Researcher's Award 2012 for PG studies in India by Indian Institute of Chemical Engineers
- Received Best Poster Award in Research Conclave '18, IIT Guwahati, India by IIT, Guwahati.

### Dr. JOYITA SARKAR

Ph.D.

Assistant Professor



#### SUBJECTS TAUGHT:

Biological Sciences & Engineering; Biochemistry/ Microbiology; Biochemical Engineering, Advanced Biochemistry, Bioprocess Engineering & Technology

#### RESEARCH INTERESTS:

Biomaterials: Effect of mechanical properties of 3D scaffolds; 3D Bioprinting, Drug metabolism and toxicity: 3D cell culture system for high throughput studies, Tissue engineering, Bioprospecting pharmaceutically & industrially important biomolecules from extreme environments

**Recognized Research guide for:** Biotechnology, Guided Students: Ph.D. 01 (ongoing), **Patents Published:** 02, Publications: National 01, International: 11, **H-Index:** 09, **Citations:** 284

#### NATIONAL AND INTERNATIONAL AWARDS

- Outstanding DST-AWSAR Award 2019 (PDF category)
- SERB-NPDF Award (2018)
- Best Oral Presentation Award in 5th Annual International Conference on Advances in Biotechnology (2015)
- CSIR SRF-NET (2012) & CSIR JRF-NET (2010)
- University Gold Medal, University of Burdwan (2010)
- Late Kamala Mallick Prize University of Burdwan (2010)
- DBT Studentship (2008)





**Prof. GIRISH MUKUNDRAO JOSHI**

*M.Sc., Ph.D. (Physics.), FMASc*

**Professor, Applied Physics**

**Department: Physics**

**SUBJECTS TAUGHT:**

Engineering Physics, Polymer nanocomposites, Nanomaterials, Structure-property relations, Material characterization

Research Interests: Polymer Physics, Nanocomposites, Thermoplastics

**RESEARCH INTERESTS:**

Polymer Physics, Nanocomposites, Thermoplastics

**Recognized Research guide for: Physics**

Guided Students: Ph. D: 10; **H-Index:** 29, **Citations:** 2025

**Patents Published:** 03, **Patents Granted:** 02

**NATIONAL AND INTERNATIONAL AWARDS:**

- Fellow of Maharashtra Academy of Sciences (FMASc) – 2019
- Life Fellow of Indian Chemical Society - 2021
- Visiting Scientist UCLM, Spain
- Member Academic Council- DBATU, Lonere, Maharashtra
- Member BOS -SRTMU, Nanded, Maharashtra
- Best National Teacher Award - Krishnamurthy Trust, Tirupati-2017
- Best Professor Award – Modern Plastic India (2024)

**DR. MANOJKUMAR M. JADHAO**

*M. Sc., NET, PhD Chemistry,*

**Assistant Professor, Chemistry**

**Department: Chemical Engineering**

**SUBJECTS TAUGHT**

Chemistry-III, Physical Methods of Analysis (M. Tech.), Natural Product Chemistry (M. Tech.), Laboratory Courses: Chemistry Lab-II, Instrumental Methods of Analysis (M. Tech.)

**RESEARCH INTERESTS:**

Protein aggregation, Fluorescence, Chemosensors, Phytochemistry

**Recognized Research guide for: Chemistry**

Guided Students: Ph.D. 02. **Patents Granted:** 04

Publications: International 30, **H-Index:** 10, **Citations:** 296

**NATIONAL AND INTERNATIONAL AWARDS**

- National Postdoc Fellowship, 2017 (DST-SERB, Government of India)
- DST JRF (2012), DST SRF (2015).







**Dr. SOMEN MONDAL**

*Ph.D.*

**Assistant Professor**

### **SUBJECTS TAUGHT:**

Chemical kinetics, Electrochemistry, Catalysis, Surface and interfacial chemistry, Advance Spectroscopy, Smart Polymer

### **RESEARCH INTERESTS:**

Ultrafast Spectroscopy, Electron and Proton Transfer, Carbon Dots, Perovskite, Conductive biopolymer, Optoelectronic devices

**Recognized Research guide for:** Chemistry

**Guided Students:** Ph.D: 2, Publications: National 02, International 36,

**H-Index:** 16, **Citations:** 663

### **NATIONAL AND INTERNATIONAL AWARDS**

- 2022: Selected Most Popular 2022 Articles in Nanoscale
- 2021: Invited Speaker in RSC-Chemsci-2021
- 2020: JACS Young Investigators-2020
- 2020: Royal Society-Newton International Fellowships 2020, UK
- 2019: The Lady Davis fellowship for postdoctoral research at the Schulich faculty of Chemistry, Technion IIT-Israel.
- 2018-2019: Planning and Budgeting committee (PBC) Fellowship program for outstanding post-Doctoral fellow at the Schulich faculty of Chemistry, Technion IIT-Israel.
- 2017-2018: Grand Technion Energy program (GTEP) Fellowship program for post-Doctoral fellow at the Schulich faculty of Chemistry, Technion IIT-Israel.
- 2017 (Feb-Nov): National postdoctoral fellowship (NPDP)-INST-India.
- 2015, 2016: Secured in the Graduate Aptitude Test in Engineering (GATE-2015, 2016)
- 2013 - 2017: Senior Research Fellowship (SRF), India for doctoral research at the Department of Chemistry, IISER Kolkata.
- 2011 - 2013: Junior Research Fellowship (JRF), India for doctoral research at the Department of Chemistry, IISER Kolkata.
- 2010: Qualified in the National Eligibility Test (NET-2010)
- 2009 - 2011: West Bengal Govt. Merit-Cum-Means Scholarship Scheme (WBG M-C-M) for pursuing M.Sc. NIT Durgapur.

**Dr. NAGSEN P. MESHRAM**

*Ph.D.*

**Assistant Professor**

**Department:** Physics

### **SUBJECTS TAUGHT:**

Physics, Materials Science

### **RESEARCH INTERESTS:**

Semiconductor thin films, Photovoltaics, Nanomaterials Synthesis, Photocatalysis

**Recognized Research guide for:** Semiconductor thin films, Photovoltaics, Nanomaterials Synthesis

Ph.D.: 02. **Patents Granted:** 04, Publications: National 01, International 12, **H-Index:** 06, **Citations:** 180



### Dr. SANDEEP PANDURANG BHAIRAT

Ph.D. Applied Mathematics

Assistant Professor, Applied Mathematics



Department: Mathematics

#### SUBJECTS TAUGHT:

Applied Mathematics - I & II, Engineering Applications of Computers (Python and MATLAB programming) Labs - I, II, III, Mathematical Methods in Chemical Engineering. IKS (Ancient Indian Mathematics), Applied Statistics, Research Methodology (M. Tech.)

#### RESEARCH INTERESTS:

Fractional calculus, Differential equations and dynamical systems, Mathematical modelling and numerical simulations, **Recognized Research guide for:** Mathematics

Guided Students: Ph.D. 02 (ongoing), Publications: National 02, International 14,

**H-Index:** 10, **Citations:** 259

#### NATIONAL AND INTERNATIONAL AWARDS:

Funding received for participating in 'Panorama of Mathematics – II' by Hausdorff Center for Mathematics, University of Bonn, Germany (Oct2023).

### Dr. KAPIL IRWANTRAO SAGROLIKAR

MA B.Ed Ph.D.

Assistant Professor



Department: English

#### SUBJECTS TAUGHT:

Communication Skills, Communication Skills Lab, General Communication, Technical Communication, Communication Skills and Soft Skills

#### RESEARCH INTERESTS:

English Literature, Oral Narrative Studies, Women Studies, Cultural Studies

**Recognized Research guide for:** English Language and Literature

#### NATIONAL AND INTERNATIONAL AWARDS:

- Institutional Doctoral Research Fellowship offered by CWDS (Centre for Women's Development Studies) ICSSR, New Delhi



### Prof. SAURAV RAJ

Ph.D.

Assistant Professor

Department: Electrical Engineering

#### SUBJECTS TAUGHT:

Electrical Engineering and Electronics, Electronics-1, Optimization Techniques

#### RESEARCH INTERESTS:

Renewable Energy, Swarm and evolutionary optimization techniques, Intelligent techniques to control Power System, Optimization and control of stochastic systems, Power System analysis and optimization, FACTS Devices, Renewable Energy, Distributed Generation, Swarm and evolutionary optimization techniques, Power System Planning

**Recognized Research guide for:** Electrical Engineering

Guided Students: Ongoing Ph.D: 02, Publications: International: 70, **H-Index:** 21, **Citations:** 1386.



## LIBRARIAN



### Dr. HITENDRA PATIL

*B.Sc. (Comp. Sci.), M.L.I.Sc., Ph.D. Library and Information Science*

**Librarian**

#### RESEARCH INTERESTS:

Information Seeking Habits, Citation Analysis, Authorship Pattern, Content Analysis & Bibliometric Analysis

#### Total Research Publications:

National: 04, International: 13,

**H-Index:** 1 (Scopus); 5 (Google Scholar),

**Citations:** 1 (Scopus); 83 (Google Scholar)

## CONTRACTUAL FACULTY

### Dr. ATUL H. BARI

*B.Tech. (Chem.), M.Chem.Engg. Ph.D. (Chem.Engg).*

**Assistant Professor, Chemical Engineering**



#### SUBJECTS TAUGHT :

Mass transfer operations, Separation Processes, Multiphase reactor design, Introduction to petroleum technology, Petroleum refining processes, Refinery engineering, Advanced reaction engineering, Advanced separation processes, Industrial Catalysis, Reservoir Technology.

#### RESEARCH INTERESTS:

Mathematical Modelling and Simulation, Population balance modelling, Chemical Kinetics, Crystallization, Nanomaterial synthesis, Bio-oil processing, Waste water treatment, Flow synthesis, Process intensification., Publications: International 14, **H-Index:** 08 (Scopus); 08 (Google Scholar), **Citations:** 202 (Scopus); 236 (Google Scholar)

#### AWARDS:

2019: DST-SERB National post-doctoral fellowship.



### Dr. SANDHYA R SHEWALE

*Ph.D. (Food Technology)*

**Assistant Professor, Food Engineering & Technology**

**Department: Food Engineering and Technology**

#### SUBJECTS TAUGHT:

Introduction to Food Technology, Food Chemistry, Food Ingredients and Additives, Food Processing Technology, Advances in Food Technology, Comprehensive Techniques in Food Analysis, Enzymes in Food and Feed Industry

#### RESEARCH INTERESTS:

Electromagnetic Radiation Based Processing of Foods, Innovative Combinational Drying Technologies, Minimal Processing of Foods, Non-Thermal Processing of Foods, Extraction and Characterization of Food Constituents, **Recognized Research guide for:** Food Technology

PDF, If any: 0, International: 7, **H-Index:** 7, **Citations:** 240

#### NATIONAL AND INTERNATIONAL AWARDS

DST-INSPIRE Fellowship for Doctoral Research by Department of Science and Technology, Government of India, 2015; Junior Research Fellowship for Post-Graduation Studies by Indian Council of Agriculture Research, 2011; Awarded University Gold Medal by VNMKV formerly known as Marathwada Agricultural University, Parbhani, Maharashtra, 2012.





### Dr. NAVNATH TULSHIRAM HATVATE

*M. Pharma., PhD*

**Assistant Professor, Pharmaceutical Science and Technology**

**Department: Pharmaceutical Science and Technology**

#### SUBJECTS TAUGHT:

Advanced Organic Chemistry, Advanced Pharmaceutical Chemistry, Active Pharmaceutical Ingredient Technology, Introduction to Pharmaceutical Technology, Drug Metabolism, Formulation Technology and Drug Delivery, Pharmaceutical Chemistry, Pharmaceutical Tech

#### RESEARCH INTERESTS:

Development of NCE and its analogs, Synthesis and evaluations of Novel Anti-TB and Anti-diabetic agents Process Chemistry of APIs and Intermediates, Total Synthesis of Natural Products and bio-active compounds, Process Developments of API and Intermediates, Modifications of Excipients and its applications in Drug Delivery,

**Guided Students:** Masters: 08, Patents: Published 01, Granted 01. Publications: International: 26, **H-Index:** 10, Citations 181



### Dr. SUPRIYO KUMAR MONDAL

*B. Tech, M. Tech and Ph. D in Chemical Engineering*

**Assistant Professor, Chemical (Energy) Engineering**

**Department: Energy Engineering**

#### SUBJECTS TAUGHT:

Advanced Mass Transfer, Environmental Engineering and Process Safety, CE Lab, Renewable Energy Systems, Combustion and Chemistry of Fuels, Energy Conversion and Storage, Materials for Energy Applications, Energy Management

#### RESEARCH INTERESTS:

Waste Water Treatment, Membrane Separation Process and Hydrogen Production, Process Optimization

**Recognized Research guide for:** Masters 22, Ongoing 08, Publications: International: 5, **H-Index:** 5 (Scopus), 5 (Google Scholar), **Citations:** 130 (Scopus), 146 (Google Scholar)



### MR BHUSHAN D. PATARE

*B.Tech, M.Tech (Oils, Oleochemicals and Surfactant Technology)*

**Assistant Professor in Lipid Technology**

#### SUBJECTS TAUGHT :

Introduction to Lipids Technology, Lipid Processing Technology, Chemistry of lipids and their applications, Technology of Oleochemicals, Essential oils and Cosmetics and Production and Applications of Soaps, Surfactants and Detergents

#### RESEARCH INTERESTS:

Polymeric Surfactants, Oleochemical synthesis, Bio-lubricants, novel surfactant system for better detergency on complex stains



### Dr. SHRIKANT METE

*B.Tech. (Chemical Engineering), M.Chem.Engg. (Chemical Engineering), Ph.D. (Chem.Engg).*

**Assistant Professor in Chemical Engineering**



#### SUBJECTS TAUGHT :

Life cycle analysis and Sustainability, Heat transfer, Momentum transfer, Mathematical methods in chemical engineering, Process development and engineering, Multiphase reaction engineering, Applications of artificial intelligence and machine learning in engineering.

#### RESEARCH INTERESTS:

Optimization, Data science, Life cycle analysis and Sustainability, Techno economic analysis, Guided Students: Masters 08, Patents: Published 01, Granted 01. Publications: International 03, Conference Proceedings 01, **H-Index:** 02 (Scopus), **Citations:** 08 (Scopus).

#### AWARDS:

- 2014: DST-SERB Doctoral fellowship
- 2019: First prize in "Senior industry defined problem", VORTEX 2019 at ICT, Mumbai

### Dr. RAMESH FULCHAND CHAVAN

*Ph.D. (Food Technology)*

**Assistant Professor**



#### SUBJECTS TAUGHT:

Carbohydrate Chemistry and Technology, Food Packaging Science and Technology, Advances in Food Engineering, Food Chemistry, Food Safety and Toxicology, Food Analysis

#### RESEARCH INTERESTS:

Green methods for utilization of food and agricultural wastes, Post-harvest technology of fruits and vegetables, Extraction and Applications of Food Bioactives, Green Synthesis of nanoparticles and applications in Food preservation and Packaging, New Food Product Development, Food Fortification and Increasing Bioavailability of Nutrients, Novel Techniques in Drying and Dehydration, Guided Students: Masters 18, **Patents Published:** 2

Publications: International 22, National 03, **H-Index:** 8, **Citations:** 144

#### NATIONAL AND INTERNATIONAL AWARDS:

- CRESSCENT Best Research Paper Award-2024
- NSD Best Researcher Award
- CSIR Best Fellow award 2024 (Food Category)



### Dr. AJINKYA MADAN SATDIVE

*M. Tech. (Polymer Engineering and Technology)*

**Assistant Professor, Polymer Engineering**

#### SUBJECTS TAUGHT:

Polymer Blends and Alloys, High Polymer Chemistry, Polymer Science and Technology I/II, Polymer Processing and Technology

#### RESEARCH INTERESTS:

Biopolymer, Polymer Synthesis, Flame Retardant, Polymer Blends  
Publications: National 00, International 08

**H-Index:** 05 (Scopus); 06 (Google Scholar),  
**Citations:** 147 (Scopus); 166 (Google Scholar)



**Dr. NAMITA KARNA**

*M.Tech. . (Polymer Engineering and Technology)*

**Assistant Professor, Polymer Engineering & Technology**

**Department: Polymer Science and Technology**

**SUBJECTS TAUGHT:**

Structure Properties Relationship of Polymer, Polymer Processing and Technology II, Material Processing, Introduction to Material Sciences, Material sciences and Engineering

**RESEARCH INTERESTS:**

Modification of polymeric Resin, EMI shielding, material synthesis, PET depolymerization.

Publications: International 05, H-index 04, Citations 114 (Google Scholar)

**Dr. SHARAD LAHOTI**

*B.Sc., MBA, LLB, CAIIB*

**Associate Dean, Industry**

**Department: Industry Training**

**Subjects Taught:**

Industrial Psychology, Financial Management, General Management

**Experience:**

He has working experience of 40+ years in Private sector industries in the Electronics, Plastics, Fertilizers, Agro Inputs, & Banking. He has hands on experience in erection, commissioning & running of industrial plants in agro inputs sector, plastics sector, etc.

He was promoter of SSI units in electronics, plastic and agro input sectors. He has good experience in day today management of industrial units, ISO certification, DSIR approvals, Project Grants, etc.



**VISITING FACULTY**



**MS. KALINDA KARHALE**

*MA Clinical Psychology, RCI- ADCGC*

**Counsellor, ICT MarJ**

Ms. Kalinda R. Karhale has over 12 years of experience as a Clinical Psychologist. She initially worked for five years at Shanti Nursing Home, Chhatrapati Sambhajnagar, and has been serving at Manas Hospital, Jalna, for the past seven years. She is also the founder of Manan Child and Family Counselling Centre in Ambad, District Jalna.





## Other Visiting Faculty Members

Sr.	Name of Visiting Faculty Member	Courses Taught	Program
1	Dr. Rama Iyer		
2	Dr. Atul Kulkarni	Structural Mechanics (Theory), Equipment Drawing and Design (Lab)	Int. M. Tech. Chemical Engineering (Major)
3	Mr. Quazi Syed Viqar Ahmed	Mechanical Engineering	Int. M. Tech. Chemical Engineering (Major)
4	Shri. Pralhad Harbak	Yoga (Open activity)	Int. M. Tech. Chemical Engineering (Major)
5	Mr. Madhav Kulkarni	IPR and Laws	Int. M. Tech. Chemical Engineering (Major)
6	Dr. Pallavi Nathani		M. Tech. Pharma
7	Dr. Vithoba Maske	Regional Language (Marathi)	Int. M. Tech. Chemical Engineering (Major)
8	Mr. P. K Bhoyar	Engineering Graphics and Computer Aided Drawing	Int. M. Tech. Chemical Engineering (Major)
9	Mr. Jayesh Trivedi	Engineering Graphics and Computer Aided Drawing	Int. M. Tech. Chemical Engineering (Major)
10	Mr. Parvin Avhad	Structural Mechanics (Lab)	Int. M. Tech. Chemical Engineering (Major)
11	Shri. Ravindra Pawar	Sports (Open activity)	Int. M. Tech. Chemical Engineering (Major)



## 5.6 PROGRAMMES OFFERED AND CRITERIA OF ELIGIBILITY FOR ADMISSION

### 5.6.1 PROGRAMMES OFFERED

#### INTEGRATED MASTERS PROGRAMMES

Sr.	Programme	Major	Minor	Intake
1.	Integrated M.Tech.	Chemical Engineering	Energy Engineering	60
			Food Engineering and Technology	
			Lipid Engineering	
			Petroleum and Petrochemicals Technology	
			Pharmaceutical Technology	
			Materials Engineering	
			Chemistry	
			Material Physics	

\* 5 years after 12<sup>th</sup> Std. or equivalent

#### MASTER'S DEGREE ( FULL TIME, 2 YEARS ) PROGRAMMES

Sr	Post Graduate Programme	Sanctioned Intake	Required qualification
1	M.Tech (Food Engineering and Technology)	18	B.E/B.Tech/B.Sc.(Tech) in Food Engineering and Technology/Food Engineering/Food Technology/ Food Science/Food Process Engineering .
2	M.Tech (Pharmaceutical Technology)	18	B.Sc.(Tech) in Pharmaceuticals and fine chemicals/B.Tech in Pharmaceutical Chemistry and Technology/B.Pharm or equivalent B.Tech with pharmacy background only.
3	M.Tech (Polymer Engineering and Technology)	18	B.E/B.Tech/B.Sc(Tech) in Polymer Engineering and Technology/Plastics Technology/Plastic Processing/ Rubber Technology/Petrochemicals and Chemical Engineering

#### DOCTORAL PROGRAMMES

Sr. No.	Programmes	Specialization
1.	Ph.D. (Tech.)	Bioprocess Technology
2.		Chemical Engineering
3.		Food Biotechnology
4.		Food Engineering and Technology
5.		Green Technology
6.		Lipid Engineering
7.		Perfumery and Flavour Technology
8.		Petrochemical Engineering
9.		Electrical Engineering

10.	Ph.D. (Sci.)	Biotechnology
11.		Chemistry
12.		Food Science
13.		Mathematics
14.		Physics

All Ph.D. programs have course work as per UGC regulations.

Please refer to chapter 3 for eligibility criteria and other important information for Master's programmes (2 year full time) and Ph.D. (Tech)/ Ph.D. (Science) programmes.

## ADMISSION PROCEDURE

### ADMISSION TO FIRST YEAR OF INTEGRATED M.Tech PROGRAM IN FOLLOWING COURSES

#### Application Procedure

All admissions will be conducted by the Institute of Chemical Technology, Mumbai Campus

For online admission form visit <http://www.ictmumbai.edu.in>

#### Admission Quota For All Integrated M. Tech. Courses Are As Follows.

Please note that a separate online application on ICT website is necessary for admission.

Admission rounds will be carried out by ICT, Mumbai.

The availability of seats (60) for these courses shall be as:

- A) 70% for state of Maharashtra (through MHT CET - 2025) and
- B) 30% for all India (all states and union territories including Maharashtra) through JEE main paper 1 - 2025

#### Integrated Master Courses of Studies and Intake Capacity

All integrated programmes are passed HSC or its equivalent examination with physics, chemistry and mathematics as compulsory subjects and obtained at least 50% marks in aggregate (at least 45% marks, in case of backward class categories and persons with disability candidates belonging to Maharashtra state only).

#### Integrated Master of Technology (M. Tech.) in :

Sr.	Specialization	Minor	Intake
1.	Chemical Engineering (Major)	Polymer and Materials Engineering	15
2.		Food Engineering and Technology	15
3.		Pharmaceutical Technology	15
4.		Lipid Engineering	15
5.		Energy Engineering	15
6.		Petrochemical Engineering	15
7.		Chemistry	15
8.		Material Physics	15

**\*Maximum intake capacity per minor subject is 15 seats. Allotment of the minor subject is strictly based on merit.**

#### Reservations:

All the reservations given below shall be applicable to candidates belonging to Maharashtra state only subject to the fulfilment of the eligibility criteria specified by respective authorities from time to time.

Reservation for backward class category candidates: the percentage of seats reserved for candidates of backward class categories belonging to Maharashtra state is as given below. The percentage of reservation is the percentages of the seats available for Maharashtra candidates. Backward class candidates shall claim the category to which they belong to at the time of submission of application form.

Sr.	Category of Reservation	Percentage of Seats Reserved
1.	Scheduled Castes and Schedule Caste converts to Buddhism (SC)	13.0%
2.	Schedule Tribes (ST)	7.0%
3.	Other Backward Classes (OBC)	19.0%



### Programme Structure

The Programme has a semester-based structure. The schedule of semesters is as follows:

Year	Odd Semester	Even Semester
1	Theory	Theory IPT (4-6 Months)*
2	Theory	Theory IPT (4-6 Months)*
3	Theory	Theory
4	Theory	Theory IPT (4-6 Months)
5	Theory	Thesis

\*Only for the students exiting at that level

**Note that the Integrated Masters' program is now converted in SEMESTER pattern. Each odd Semester shall have IPT of 4-6 months' duration. The Semester VIII (even semester of fourth year) will be IPT.**

### Fees, Concessions, Cancellations and Refund:

#### Course Fees Prescribed:

The candidates to be admitted during 2025-26 for Integrated M Tech are required to pay fees as prescribed by the state government. The institutional fees to be paid by all the admitted candidates are as follows:

Sr.	Type of Fees	Open And All Reserve Category Students Fee For 1 <sup>st</sup> Year (₹)
1.	Library Deposit	5,000
2.	Fees	1,02,233/-

#### Course Fees Prescribed for M. Tech.:

The candidates to be admitted during 2025-26 for Two-Year M Tech are required to pay fees as prescribed by the state government. The institutional fees to be paid by all the admitted candidates are as follows:

Sr.	Type of Fees	Open And All Reserve Category Students Fee For 1 <sup>st</sup> Year (₹)
1.	Library Deposit	5,000
2.	Fees	1,01,000/-

\*Note: contingency amount for M. Tech. students admitted under various fellowships will be as per the norms of respective sponsoring funding agencies. Research contingency of Rs. 12,000/- will be added in the fifth year of fees.

### Academic Calender 2025-26

#### (A) INTEGRATED MASTERS PROGRAMMES

Semester – I: July 01, 2025 to December 31, 2025

Semester – II: January 01, 2026 to June 30, 2026

#### (B) MASTERS PROGRAMMES

As per ICT, Mumbai Academic Calendar

#### (C) DOCTORAL PROGRAMMES

Academic Year: July 01, 2025 to June 30, 2026

Note – the above-mentioned dates are tentative and likely to change based on admission round.

## 5.7 ICT-MARJ CENTRAL LIBRARY

### Introduction

The Central Library was established in the year 2018. It is a special library. The Library caters to the educational and research needs of the academic community of the institute. It provides supports to both academic and research work. At present the Central Library is functioning on the first floor of the academic building. The library provides open-access system to its user community. It has a good number of collections in basic science, specialized collection in Chemical Engineering, Chemical Sciences, And Chemical Technology, Material Physics, Industrial Chemistry, Communication Skills, and Technical Communication, etc. It is also having

a number of reference books and Journals. The library has access to a number of e-resources. The library is fully automated with the help of KOHA software. Users can login freely, Web-OPAC which is currently on the intranet gives detailed information about library books. Users can find out the real-time availability of library materials from their own computer terminals. The library also has a separate collection of Reference book.

Also a member of ONOS (One Nation One Subscription). The Prime Minister of India in his address to the Nation from the ramparts of the Red Fort on 15th August, 2022, had pointed out the importance of Research and Development in our country in the Amrit Kaal. He had given the clarion call of “Jai Anusandhan” on the occasion. The National Education Policy, 2020 (NEP 2020) has also identified research as a co-requisite for outstanding education and development in our country. In response to the vision of making India Atmanirbhar and Viksitbharat@2047, the Government of India approved One Nation One Subscription scheme to provide country-wide access to international high impact scholarly research articles and journal publications to students, faculty and researchers of all Higher Education Institutions managed by the central government and state governments and Research & Development Institutions of the central government.

### Membership

1. IIRS (Indian Institute of Remote Sensing): ICT Mumbai Marathwada Campus Jalna is now the network institute of IIRS /ISRO outreach network. (Five students have completed and certified with IIRS Courses)
2. SWAYAM/ NPTEL: ICT Mumbai Marathwada Campus Jalna is now the member of SWAYAM/ NPTEL local chapter.
3. The bonafide students and faculty of the institute have book lending facility. Book borrowing facility can be availed against ID card.

### Library Timings

Monday to Saturday from 9.00 am to 6.30 pm (On Working Days).

### Library Layout

The library is located on the first floor of the academic building of the institute and is centrally accessible.

### Membership

The bonafide students and faculty of the institute have book lending facility. Book borrowing facility can be availed against ID card.

### Library Collection: Printed Resources

#### • Books

The library has substantial number of latest Indian as well as international edition printed books in its collection. The books are in the area of Physics, Chemistry, Mathematics, Applied Chemistry, Chemical Technology, Chemical Engineering, Industrial Chemistry, Material Physics, Environmental Science, Food Technology, Polymer Science, Textile Technology etc.

#### • Printed Journals

The library subscribes to a number of national and international scholarly journals from renowned publishers like Elsevier, STM, Advanced Research Group and others.

#### • Digital Resources

Library has a collection of e-resources like e-databases & e-journals, accessible through remotexs software from their parent institute i.e. Prof. M.M. Sharma library, ICT Mumbai Campus. All digital library resources available at the ICT, Mumbai are available in ICT, MARJ.

#### • Library Services

The library provides services to its user community like,

- Circulation
- CAS (current awareness service)
- SDI (selective dissemination service)
- Reprography service
- Scanning service
- New books arrival
- OPAC (open public access catalogue)
- Reference service
- Reading room
- Digital library
- Suggestion & feedback



### Library Portal

Library portal can be accessed through <http://ictlibrary.firststray.in/>

### Contact:

Dr. Hitendra J. Patil, Librarian,

email : [librarian@staffmarj.ictmumbai.edu.in](mailto:librarian@staffmarj.ictmumbai.edu.in)

### ANTI-RAGGING SQUAD AT ICT MARJ:

Sr.	Name	Role
1	Dr. Parag Nemade	Co-Chair
2	Mr. Sharad Lahoti	Senior Faculty
3	Ms. Kalinda Karhale	Counsellor
4	Dr. Manojkumar Jadhao	Member – Faculty
5	Mr. Nagesh Alsatwar	Staff Member
6	Ms. Sakshi Katuraka	Student Representative
7	Mr. Sahil Shete	Student Representative
8	Ms. Yogita Patel	Student Representative
9	Ms. Shreya Bhardwaj	Student Representative
10	Mr. Mrunmay Joshi	Student Representative

## 5.8 MAJOR RESEARCH FACILITIES AT ICT-MARATHWADA CAMPUS

Sr.	List of Analytical Instruments
1	Gas Chromatography (GC) – Volatile compound analysis
2	Gas Chromatography-Mass Spectrometry (GC-MS) – Advanced chemical analysis
3	High-Performance Liquid Chromatography (HPLC) – Liquid-phase separation
4	Isothermal Titration Calorimetry (ITC) – Thermodynamic binding analysis
5	X-Ray Diffraction (XRD) System with Accessories – Crystalline structure analysis
6	Raman Spectrometer – Molecular and structural identification
7	Inductively Coupled Plasma Mass Spectrometry (ICP-MS) – Elemental analysis
8	Rheometer-Viscosity and flow behaviour of materials
9	BET Surface Area Analyzer – Surface area and porosity measurement
10	FTIR & Hydraulic Press – Infrared spectroscopy + sample preparation
11	UV Spectrophotometer (Single Beam) – Basic UV-Vis absorption analysis
12	UV Spectrophotometer (Double Beam) – More precise UV-Vis analysis
13	Autoclave High-Pressure Reactor – High-pressure chemical reactions
14	Electrochemical Workstation – Electrochemical analysis
15	Goniometer – Surface wettability and contact angle measurement
16	Photo-Reactor – Photochemical reactions
17	Tube Furnace – High-temperature material processing
18	Vapour Phase Reactor – Gas-phase chemical reactions
19	Di-Water Prefiltration Assembly – Water purification
20	Biosafety Cabinet – Biological sample protection
21	Airflow Vertical Laminar Biosafety Cabinet – Contamination control
22	Autoclave Reactor – Sterilization
23	Eppendorf - CryoCube F-570 – Sample storage (cryopreservation)
24	Gel Electrophoresis with Documentation (Bio-Rad) – DNA/protein analysis







X-Ray Diffractometer (XRD)



GC-MS



Spectrophotometer



BET Surface Analyser



Raman Spectrometer



Tube Furnace



FTIR



HPLC



ITC



ICP-MS



Electrochemical Workstation



## 5.9 HOSTELS



### Preamble

ICT, Marathwada, has rented residential flats which are currently used as hostel for both integrated M.Tech. and 2 year M. Tech students. In the same premises in separate wing Girls Hostel arrangement is made. One more apartment in same locality (approximately 300m apart) is also rented as boy's hostel. At present these hostels can accommodate 120 boys and 64 Girl students. Guest House facility is also located in the Tejomay apartment

### Process of Allocation of Hostels

1. Hostel No. 1 is allotted to Girls from all years of Integrated M. Tech Programme. Girls from other courses will be accommodated subject to vacancy. Hostel No. 2 is for Boys, mainly from the First Year Integrated M. Tech Programme. All the hostels are unaided and maintained by the Institute.
2. Bus Conveyance is arranged from Hostel No. 1 & 2 (for all hostel students) to reach ICT, MARJ, Campus which is about 3.5 kms away. Hostel No. 3 is at a distance of 300m from Hostel No. 1 and 2.
3. Only bonafide full time students of ICT, MARJ are entitled for hostel admission.
4. Admission will be offered on merit basis. Preference will always be given to out-station students who come from places beyond the limits of Jalna. As a proof of stay beyond the limits of Jalna, they are required to upload scanned copies of ration card/ Aadhar card and school-leaving certificate. Any false representation in this regard will be strictly dealt with.
5. Student who have taken admission to ICT can register on-line through ICT log in portal ([www.ictmumbai.co.in](http://www.ictmumbai.co.in)). Students need to upload a residence proof, a medical certificate from your family doctor (with clearly mentioning about chronic health problem or allergy if any). Hostel authority will approve the form and will give call for admission depending upon the availability of seats.
6. Students must confirm the hostel admission by paying the required fee to ICT, MARJ Hostel account.
7. The Warden of the respective hostel has all the rights to change/transfer a student from one room to other within the hostel for convenience of the administration. Also, every year the student may be shifted from the accommodation provided in earlier year.
8. In case of the year-drop, the candidate will have no claim for hostel accommodation and will have to vacate the hostel. Readmission for such student on clearing the year-drop will not be guaranteed.

### Hostel Fees: (Accommodation)

Hostel Category	Type of Accommodation	Hostel Capacity	Annual Fees*, Rs.
Hostel no. 1	Girls Double Seated	48	45,000.00**
Hostel no. 2	Boys Double Seated	60	45,000.00**
Hostel no. 3	Boys Double Seated	42	39,000.00**
Hostel no. 3	Boys Single Seated	30	57,000.00**

Note: If social distancing norms imposed by the government are applicable, number of seats may get reduced. Accommodation fees should be paid online following the procedure detailed on [www.ictmumbai.co.in](http://www.ictmumbai.co.in)

\* One-time security deposit of Rs. 5,000/- towards hostel is required to be paid at the time of hostel admission

*which will be refunded either after the student completes their course or if they cancel their ICT admission.*  
**\*\* Provisional and subjected to revision.**

### Hostel Mess

It is compulsory for all the hostel students to join the ICT-MARJ Hostel Mess, which is managed by a student committee on a cooperative basis. The mess provides breakfast and two meals each day. All students joining the mess are required to pay the mess bill in advance when instructed. At the time of hostel admission, students must deposit an advance of Rs 20,000 into the ICT-MARJ mess account, which will be adjusted against their future mess bills. Additionally, a one-time security deposit of Rs 5,000 is required while joining the mess. This deposit will be refunded either after the student completes their course or if they cancel their ICT admission.

### Hostel Management

Wardens manage all the affairs of the hostel and are assisted by hostel office staff. Laundry facilities and housekeeping is also arranged. Separate Woman Security Guard is also appointed.

### Wardens at ICT hostels

Hostel No.	Warden
Hostel No. 2 & 3	<b>Dr. A. H. Bari</b> <i>email: <a href="mailto:ah.bari@staffmarj.ictmumbai.edu.in">ah.bari@staffmarj.ictmumbai.edu.in</a></i>
Hostel no. 1	<b>Dr. Joyita Sarkar</b> <i>email: <a href="mailto:j.sarkar@marj.ictmumbai.edu.in">j.sarkar@marj.ictmumbai.edu.in</a></i>
Hostel Office	For details, please contact Mr. Rahul Vyas (I/C Hostel Maintenance)

### General

1. Limited guest house facility is available at Hostel No. 1 & 2 only for parents who wish to meet their wards studying at ICT on payment basis.
2. Hostels are equipped with mess, T.V. room and essentials.
3. All students are covered under accident policy of the Institute.

### Discipline and Decorum

1. Smoking and consumption of alcohol is strictly prohibited in hostels and public places in the entire campus of ICT. A strict disciplinary action will be taken against the student involved in misdemeanor and illegal activities.
2. All the students have to report in their respective hostel premises by 8:00 pm and should be in their respective rooms by 10:00 pm.
3. Action against ragging: Maharashtra Prohibition of Ragging Act 1999 is in effect from 15th May 1999. (See details later from UGC in this regard). Any case of ragging should be reported by the victim in writing within three days of the incident to the respective warden with copies marked to: Associate Dean ([assodean.ind@marj.ictmumbai.edu.in](mailto:assodean.ind@marj.ictmumbai.edu.in)) and Director ([director@marj.ictmumbai.edu.in](mailto:director@marj.ictmumbai.edu.in)).





## 5.10 INDUSTRIAL TRAINING

### ICT-Marathawada, Jalna Campus

Integrated M. Tech. students of ICT-Marathawada, Jalna Campus were placed for 4-month industrial training in different companies. Some of our training partners are:



Sr.	List of Industries for IPT of ICT Jalna Students	Place
1	Aarti Drugs Ltd	Tarapur
2	Abbott India Ltd	BKC, Mumbai
3	Abhay Cotex Pvt Ltd Jalna	Jalna
4	ACG Associated Capsules Ltd	Shirval Pune
5	Adherence Techno Products Pvt Ltd Aurangabad	Aurangabad
6	Adonia Cosmetics Pvt Ltd Atgaon	Shahapur Thane
7	Ajanta Pharmaceuticals Ltd Aurangabad	Aurangabad

Sr.	List of Industries for IPT of ICT Jalna Students	Place
8	Akzo Nobel Ltd	New Mumbai
9	Alkem Laboratories Ltd	Sikkim
10	Alkyl Amines Ltd Kurkumbh	Pune
11	Amogh Chemicals Pvt Ltd	Mumbai
12	AMUL Milk Union Ltd Anand	Anand
13	Approcopp Engineering Pvt Ltd Jalna	Jalna
14	ARHA Foods	Nasik
15	Asian Azoles Pvt Ltd	Vapi
16	Atra Pharmaceuticals Pvt Ltd Waluj	Aurangabad
17	Aurochem Pvt Ltd	Palghar
18	Baramati Agro Ltd	Baramati
19	BASF Ltd	Dahej Gujarat
20	Bhabha Institute Of Atomic Research (BARC)	Mumbai
21	Bhagyalaxmi Steels Pvt Ltd Jalna	Jalna
22	Bhakti Solvex Pvt Ltd Jalna	Jalna
23	Bharat Petroleum Corp Ltd Bina Refinery	Bina
24	Blast Carboblocks Pvt Ltd Vashi	New Mumbai
25	Bosch Ltd	Nasik
26	BPCL Ltd Mumbai	Mumbai
27	Britannia Industries Ltd	Ranjangaon
28	Burlyfield Foods	Aurangabad
29	Central Institute of Mining & Fuel Research	Dhanbad
30	Century Paper & Pulp Ltd	Nainital
31	Century Rayon Ltd Kalyan	Kalyan
32	Chandrapur Super Thermal Power Plant	Chandrapur
33	Chemdist Membrane Solutions	Bhosari Pune
34	Chemdist Process Solutions	Pune
35	Chemvera Speciality Chemicals Pvt Ltd	Mumbai
36	Chitale Bandhu Mithaiwale	Shirwal Pune
37	CIPLA Ltd	Patalganga Rasayani
38	Clarion Drugs Ltd	Nagpur
39	Clean Chem Laboratories	Mumbai
40	Concept Pharmaceuticals Pvt Ltd Aurangabad	Aurangabad
41	Cream N Joy Ice-Creams	Aurangabad
42	CSIR-Institute of Microbial Technology	Chandigarh
43	Cyanohealth Pvt Ltd	Mumbai
44	Deepak Fertilizers & Petrochemicals Ltd	Taloja
45	Deepak Nitrite Ltd	Vadodara
46	DIAT-DRDO	Pune
47	Dinshaw Foods Pvt Ltd Nagpur	Nagpur
48	Divya SRJ Foods Jalna	Jalna
49	Dow Chemicals Research Centre	New Mumbai
50	Dr B A Ambedkar Sugar Co-Op.Ltd Osmanabad	Osmanabad
51	Embio Research Pvt Ltd	Panvel Mumbai
52	Enaltech Labs Pvt Ltd	Ambernath
53	Endress+Hauser Ltd	Waluj Aurangabad



Sr.	List of Industries for IPT of ICT Jalna Students	Place
54	Energy Efficiency Services Ltd	Mumbai
55	Engineers India Ltd	New Delhi
56	Envirocare Laboartories Ltd Thane	Thane
57	Evergreen Technologies Pvt Ltd	Mumbai
58	Exotic Fruits Pvt Ltd	Krishnagiri T.N.
59	FDC India Ltd	Roha
60	Fit-Shit Health Solutions	Mumbai
61	Food Innovation Research	New Delhi
62	Fragrances & Flavours Development Centre	Lucknow
63	Garware Polysters Ltd Aurangabad	Aurangabad
64	Gauri Agro Tech Pvt Ltd Jalna	Jalna
65	Gharda Chemicals Ltd	Chiplun
66	Glatt Systems Pvt Ltd Mumbai	Mumbai
67	Glenmark Pharamaceuticals Ltd R & D Division	Navi Mumbai
68	Glenmark Pharamaceuticals Ltd Nasik	Nasik
69	Godrej Industries Ltd Ambernath	Ambernath
70	Godrej Industries Ltd Mumbai / Valia	Mumbai
71	Gokul Dairy	Kolhapur
72	Gramercy Trade Ind Pvt Ltd Kurla	Mumbai
73	Grauer & Weil Ltd	Vapi
74	Gujarat Flurochemicals Ltd	Dahej Gujarat
75	Haffkine Ajintha Pharma Ltd	Jalgaon
76	Haffkine Bio-Pharma Pvt Ltd Mumbai	Mumbai
77	Haldiram Foods	Nagpur
78	Har Hal Plastic Eng Pvt Ltd Waluj	Aurangabad
79	Harman Finochem Ltd Shendra	Aurangabad
80	Hebbar Chemicals Pvt Ltd	New Mumbai
81	HPCL Ltd Chembur Mumbai	Mumbai
82	HPCL LTD Lube Division	Mumbai
83	Humanity Chemie Pharma Pvt Ltd Waluj	Aurangabad
84	Hygeinic Research Institute Pvt Ltd	Mumbai
85	Indian Institute of Chemical Technology	Hyderabad
86	Indian Institute Of Petroleum	Dehradun
87	Indian Oil Corp.Ltd Panipat Refinery	Panipat
88	Indian Rare Earths Ltd Ganjam Orissa.	Ganjam Orissa
89	Indian Rubber Mfrs Research Organisation Thane	Thane
90	Indo Amines Ltd	Mumbai
91	Indo Rama Synthetics Ltd	Nagpur
92	Indo Reagens Polymer Additives P Ltd Thane	Thane
93	Influtech Engineering Pvt Ltd	Pune
94	Innova Cap Tab Ltd	Baddi H.P.
95	Innovative Environmental Tech Pvt Ltd	Pune
96	IPCA Laboratories Ltd Mumbai	Mumbai
97	ITC Ltd Foods Division	Ranjangaon Pune
98	Janhavi Plastics Pvt Ltd	Mumbai





Sr.	List of Industries for IPT of ICT Jalna Students	Place
99	Jay Bhavani Sugar Ltd	Gevrai
100	Jayant Specialities Pvt Ltd Palghar Mumbai	Mumbai
101	JB Chemicals & Pharmaceuticals Ltd Panoli.	Panoli Gujarat
102	JSW Paints Vasind	Thane
103	Kalash Seeds Pvt Ltd Jalna	Jalna
104	Kansai Nerolac Paints Ltd Koparkhairane	New Mumbai
105	Keva	Mumbai
106	Kopran Ltd	Khopoli
107	Lanxess Pvt Ltd	Thane
108	Laxmi Cotspin Ltd Jalna	Jalna
109	Laxmi Organic Ltd	Mahad
110	Lupin Pharmaceuticals Ltd	Aurangabad
111	Lupin Pharmaceuticals Ltd	Goa
112	Luvn Foods Powai	Mumbai
113	M B Sugars & Pharmaceuticals Pvt Ltd	Malegaon
114	Macchem Products Pvt Ltd Tarapur	Dist Palghar
115	Mahanand Dairy Mumbai	Mumbai
116	Makwell Plasticizers Pvt Ltd	Mumbai
117	Mangalore Chemicals & Fertilizers Ltd	Mangalore
118	Mapro Foods Pvt Ltd Mahabaleshwar	Mahabaleshwar
119	Metalman Auto Components Pvt Ltd Aurangabad	Aurangabad
120	Metaroll Steels Pvt Ltd Jalna	Jalna
121	Mondelez Foods Induri (Cadburys)	Pune
122	Monginis Cakes Factory	Aurangabad
123	Mother Dairy Ltd	New Delhi
124	Mylan Laboratories Ltd Aurangabad	Aurangabad
125	Nutriti Ingredients Pvt Ltd	New Mumbai
126	Omech Components Shendra	Aurangabad
127	ONGC Regional Geoscience Laboratory	Panvel Mumbai
128	OPAL Dahej Gujarat	Dahej Gujarat
129	Orthocrafts Innovations Pvt Ltd	Pune
130	Parle Biscuits & Confectioneries	Nasik
131	Patanjali Ayurved , Haridwar	Haridwar
132	Pharmaglance Consultancy LLP	Pune
133	Pidilite Industries Ltd	Dahej Gujarat
134	Pooja Rotomake Pvt Ltd	Jalna
135	PPG Asian Paints Limited Navi Mumbai	Mumbai
136	Pratap Organics Ltd	New Mumbai
137	R J Foods (Parle Biscuits)	Jalgaon
138	Radico NV Distilleries Ltd	Shendra Aurangabad
139	Rajuri Steels Pvt Ltd Jalna	Jalna
140	Raptokoss Brett Ltd	Thane
141	Rathi Steel & Metal Pvt Ltd Jalna	Jalna
142	RCF Ltd Chembur Mumbai	Mumbai
143	RCF Ltd Thal , Alibaug	Alibag Raigad
144	Reliance Industries Ltd	Jamnagar



Sr.	List of Industries for IPT of ICT Jalna Students	Place
145	Reliance Industries Ltd	Hazira
146	Relinace Green Energy Ltd	New Mumbai
147	Rena Sugar Ltd	Renapur
148	Rich Products & Solutions Pvt Ltd	Pune
149	Roopam Steels Pvt Ltd Jalna	Jalna
150	Rossari Bio Tech Ltd	Mumbai
151	S For S Technology Sanpada Navi Mumbai	Mumbai
152	Sanjay Techno Group Aurangabad	Aurangabad
153	SASMIRA Worli Mumbai	Mumbai
154	Savera Pharamaceuticals Pvt Ltd	Waluj Aurangabad
155	Serum Institute Ltd	Pune
156	Set on Site Transformers Waluj	Aurangabad
157	Sheela Transformer Industries Jalna	Jalna
158	Shree Tubes Pvt Ltd Waluj, Aurangabad	Aurangabad
159	Shreya Pharamaceuticals Waluj Aurangabad	Aurangabad
160	Shreyam Power & Steel Ltd	Gandhidham
161	Smoothline Cables Jalna.	Jalna
162	Snackible Pvt Ltd	Kurla Mumbai
163	Snowtech Equipments Pvt Ltd	Mumbai
164	Solar Industries Ltd	Nagpur
165	Solar Industries Ltd	Nagpur
166	Songwong Speciality Chemicals Pvt Ltd Ankaleshwar	Ankaleshwar
167	Suhans Activated Alloys Pvt Ltd	Jalgaon
168	Sula Wines	Nasik
169	Sun Pharmaceuticals Ltd	Dewas M.P.
170	Sunita Hydrocolloids Pvt Ltd	Jodhpur
171	Tastybite Eatables Ltd	Pune
172	TCS -Tata Research Development & Design Centre	Pune
173	Technip Energies Ltd Powai	Mumbai
174	Thakurji Solvex Pvt Ltd Jalna	Jalna
175	Thermax Limited Pune	Pune
176	Transpek Industry Ltd	Vadodara
177	Transpek Silox Pvt Ltd	Vadodara
178	Trilok Foods Satara	Satara
179	Tulsi Paints Pvt Ltd Nanded	Nanded
180	UPL Ltd Jhagadiya Ankaleshwar	Ankaleshwar
181	UPL Ltd Kalol Gujarat	Kalol Gujrat
182	Vadilal Industries Ltd	Gandhinagar
183	Vaidehi Masale Industries Jalna	Jalna
184	Vanvid Chemicals Pvt Ltd	Chiplun
185	Vasudhara Dairy (AMUL)	Nagpur
186	Vega Chemicals Pvt Ltd Jalgaon	Jalgaon
187	Vibfast Pigments Pvt Ltd Ahmedabad	Ahemedabad
188	Vinati Organics Ltd	Chiplun
189	Vincitore Technologies Pvt Ltd	Pune
190	Vinodrai Engineering Pvt Ltd Jalna	Jalna



Sr.	List of Industries for IPT of ICT Jalna Students	Place
191	Warna Dudh Sangh	Warnanagar
192	Wockhardt Pharmaceuticals Ltd Aurangabad	Aurangabad
193	Zelos Foods	Pune
194	Gharda Chemicals Ltd Dombiwali	Mumbai
195	Gujarat Heavy Chemicals Ltd Sutarpada	Gujarat

## 5.11 PLACEMENT

### 5.11.1 HIGHER STUDIES

Sr. No.	Name of Student	Admits received	Admit accepted with full fellowship for Ph.D.
1	Harsh R Darji	University of Wisconsin Madison University of Minnesota - Twin Cities	University of Wisconsin Madison
2	Farhan Shaikh	University of Florida Texas A&M University University of Colorado Boulder University of Pittsburgh Johns Hopkins University Iowa State University	University of Pittsburgh
3	Krutarth Pandit	Ohio State University Penn State University	Ohio State University
4	Ali Asger	Carnegie Mellon University Cornell University	Carnegie Mellon University
5	Ayush Deore	Georgia Institute of Technology Ohio State University Arizona State University State University of New York, Buffalo	Georgia Institute of Technology
6	Urvi Parlikar	University of Colorado Boulder State University of New York, Buffalo	University of Colorado Boulder
7	Vishnu Pradeep S	Columbia University TU Delft Johns Hopkins University University of Southern California State University of New York	Columbia University
8	Parth Khandagale	University at Buffalo	State University of New York
9	Farhan Shaikh	Johns Hopkins University	Johns Hopkins University





### Integrated MTech 2019-2024 (Current Batch)

1	Aniket Sanjay Shitole	KTH Royal Insti of Technology Sweden
2	Aryan Cypriano Saldanha	Yet to confirm
3	Himanshu Mahesh Nagnure	Yet to confirm
4	Vrushank Jitendra Dhake	Washington University USA
5	Omkar Santosh Muley	University Of Ottawa Canada
6	Pratham Manish Shah	McMaster University Canada
7	Raj Lalasaheb Wagh	University of Wisconsin Madison
8	Rohan Chandrashekhar Thota	University of Florida USA
9	Sarang Subhashchandra Shindalkar	University of South Florida USA
10	Tejas Rahul Jairange	Carneigi Melon, Pittsburg USA
12	Ranveersingh Pritamsingh Suryawanshi	Yet to confirm
13.	Ayshwaryalakshmi Kurup	Illinois University USA
14.	Devansh Pathak	Rochester University USA

### HIGHER STUDIES (INTEGRATED M TECH 2020-2025 BATCH - ONGOING)



## INDUSTRY PLACEMENT (INTEGRATED M. TECH 2018-2023 BATCH)



## 5.12 STUDENT ACTIVITIES





## STUDENT ACTIVITIES





## STUDENT ACTIVITIES





## SECOND INTERNATIONAL CONFERENCE ON “NANOMATERIALS AND SUSTAINABLE APPLICATIONS (NANO-SA)-2023”



- More than 19 eminent keynote and invited national and international speakers
- Over 200 participants from India and abroad
- Graduates, Research Scholars, Faculty, and Industrial researchers from various industries were the prominent participants
- Sponsored by several chemical as well as mechanical industries

Recently Institute of Chemical Technology, Marathwada Campus, Jalna (ICT MARJ) hosts the



second international conference on “Nanomaterials and Sustainable Applications’ (NANO-SA)-2023 at Rama International Hotel, Ch. Sambhajinagar on 10th and 11th January 2023. More than 200 graduate and undergraduate students, researchers, as well as industry professionals from around the world attended the NANO-SA-2023 conference at Ch. Sambhajinagar. Commenting on the occasion, NANO-SA-2023 inaugurated by Prof. A. B. Pandit, Vice-Chancellor, ICT Mumbai, and Prof. U. S. Annapure, then Director, ICT MARJ, in presence of Padmashri Prof. T. Pradeep as a chief guest. On behalf of the whole organizing committee, Prof. A. B. Pandit was welcome all the delegates participated in the conference. “Research in the field of Catalysis under Materials Chemistry has witnessed an exponential growth throughout the globe and the potential of its manifestation has been observed in this 2nd NANO-SA-2023 conference. We look forward to an excellent meeting with internationally renowned scientists and hope that the congress visitors are highly benefitted by their experiences and frontier research work in advancing the areas of Catalysis, Chemical Engineering and Materials Chemistry, along with the industry partners,” said Prof. Pandit on the occasion of inaugural function. Prof. Annapure also address the gathering and felicitated the function chief guest Padmashri Prof. T. Pradeep along with Prof. Pandit. Padmashri Prof. T. Pradeep was invited as Chief guest for this conference and he was honoured with special award for his valuable contribution in the development of cost-effective water technology. These two days international conference highlights were shared by Prof. Manoj B. Gawande, Convener NANO-SA-2023 and inaugural session concluded with vote of thanks by Prof. Girish M. Joshi, coordinator of NANO-SA-2023.

After this kick-off inaugural session other eminent personalities around the world namely, Padmashri Prof. G. D. Yadav from ICT Mumbai, Padmashri Prof. T. Pradeep from IIT Madras, Prof. Matthias Beller from Leibniz-Institute für Katalyse, Rostock, Germany, Prof. Markus Antonitii from Max Planck Institute of Colloids and Interfaces, Germany, Prof. Burkhard König from the University of Regensburg, Regensburg, Germany gave the keynote address to the attendees. Apart from this, other invited speakers like Dr. Ankush V. Biradar from CSIR-CSMCRI Bhavnagar, Prof. Akkattu T. Biju from IISc Bangalore, Prof. Biswarup Pathak from IIT Indore, Dr. Gianvito Vile from Politecnico di Milano, Italy, Dr. Jayaramulu Kolleboyina from Indian Institute of Technology Jammu, J&K, Prof. Nitin T. Patil from IISER Bhopal, Dr. Prajakta Dandekar Jain from ICT Mumbai, Prof. R. K. Sharma from University of Delhi, Delhi, Prof. Sebastian C Peter, from JNCASR, Bangalore, Prof. Manoj B. Gawande from ICT MARJ, Prof. S. T. Mhaske from ICT Mumbai, Prof. Atul V. Wankhade from VNIT, Nagpur, and Dr. Dinesh N. Sawant from CSIR-NCL, Pune also shares their thoughts on ongoing advances in the field of nanomaterials and their applications in sustainable catalysis.

This international NANO-SA-2023 conference covered the topics of various branches of science, and technology which emerged due to the investigation and exploration of advanced technology, including electronics, energy, and nano-catalysis for sustainable technological development. This conference provided a platform for researchers from across the world to communicate and share the latest developments and applications of nanomaterials in the developing and ever-expanding fields like energy conversion (Fuel cells & Hydrogen), nanocatalyzed organic transformations, carbon capture, storage, and conversion (CO<sub>2</sub> sequestration), environmental remediation and sustainable applications (viz. organic methodologies). This unique theme, nanomaterials for sustainable applications provided a new avenue for the researcher to design and development of nanomaterials for a sustainable future.

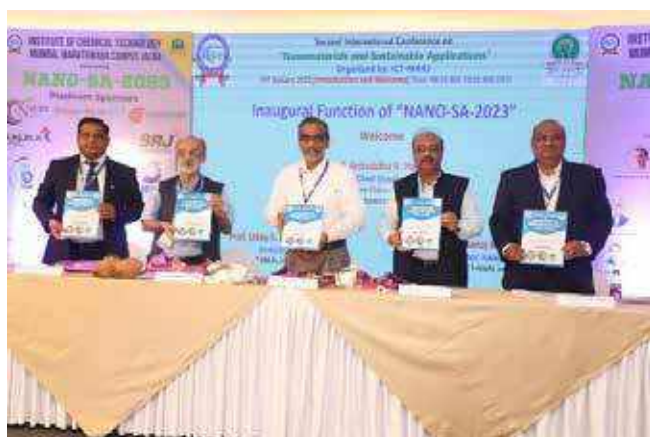
Along with the keynote and invited speaker sessions, Prof. Girish M. Joshi lead the participants for poster presentation session in this NANO-SA-2023 conference. More than 100 posters were presented during the NANO-SA-2023 by research students as well as academic researchers and scientists, among them 17 posters were awarded by American Chemical Society (ACS) and Royal Society of Chemistry (RSC) publications (8 and 6 awards) respectively. ICT MARJ also recognized and awarded the three best poster presentations among overall posters. The award



includes certificate, cash prize, and memento as a token of love.

This second international NANO-SA-2023 conference concluded with a valedictory ceremony which was graced by a Mr. Sriram Narayanan, Managing Director of Endress+Hauser Group, as a guest of honor. He enlightens the researchers by his valuable thoughts and suggestions on the development of technology for industrial applications which will benefit the society. Dr. Manoj Jadhao, Co-Coordinator of NANOSA 2023, gave the vote of thanks to conclude the NANO-SA-2023. During this two days Dr. Ritika Joshi, Dr. Yogesh Gat and his team anchored the complete sessions of this event. The ICT Marathwada Jalna faculties contributed to this event, mainly Dr. P. R. Nemade, Dr. Somen Mondal, and Dr. Sandeep Bhairat. Along with this, Dr. Bhaskar Sathe from Dr. BAM University, Dr. Ankush Biradar from CSIR-CSMCRI, Dr. Atul Wankhede from VNIT, Nagpur, Dr. Dinesh Sawant, CSIR-NCL Pune and Prof. Gawandes research group provided valuable support for accomplishing the NANO-SA-2023 event.

The NANO-SA-2023 event was sponsored by various industries, such as Endress+Hauser Group, Garware Hi-Tech Films Ltd. Ch. Sambhajinagar, SRJ Peety Steels Pvt. Ltd. Jalna, Kalika steel alloys Pvt. Ltd. Jalna, LabIndia Instruments Pvt Ltd. Verder Scientific Pvt. Ltd. Bheesheetal Research Pvt. Ltd. Jalna, Bhagyalaxmi Rolling Mill Pvt. Ltd. (POLAAD) Jalna, LabIndia Analytical Instruments Pvt. Ltd., Jeol India Pvt. Ltd., Thermofisher Scientific, Rathi Steel and Metal Pvt. Ltd. (ICON steel), Mr. Vilas Patil, Dwell Instruments, Sanjay Techno Products Pvt. Ltd., Toshvin Analytical Pvt. Ltd., Bhogale Coatings & Paints Pvt. Ltd., Crystal surfactant & Chemicals, AdiChem Technology Pvt. Ltd., KLB Instruments Co. Pvt. Ltd, ICON Analytical, and Science and Engineering Research Board (SERB), Department of Science & Technology, Government of India.





# ASSOCIATIONS, ENDOWMENTS AND PLACEMENT





## 13<sup>th</sup> (Interim) Convocation: August 10, 2023



### **Masters Degree (Mumbai Campus): M.Chem.Engg., M.Tech., M.Pharm, M.Sc. 46 Candidates**

M.Chem.Engg.:24, M.Pharmacy:10, M.Tech in Dyestuff Technology:02, M.Tech in Perfumery and Flavour Technology:08, M.Tech in Green Technology:12, M.Tech in Oils, Oleochemicals and Surfactants Technology:16, M.Tech in Polymer Engineering and Technology:04, M.Tech in Surface Coating Technology:05, M.Tech in Pharmaceutical Technology:09, M.Tech in Pharmaceutical Biotechnology:03, M.Tech in Fibres and Textile Processing Technology:03, M.Tech in Bioprocess Technology:14, M.Tech in Food Engineering and Technology:10, M.Tech in Food Biotechnology:03.

### **Degree (Marathwada Jalna Campus) : 04**

M.Tech in Food Engineering and Technology:01, M.Tech in Pharmaceutical Chemistry and Technology:02, M.Tech in Polymer Engineering and Technology:01.

### **Masters Degree (IOCB Bhubaneswar Campus) : 10**

M.Tech Pharmaceutical Chemistry and Technology:09, M.Tech Petrochemical Engineering:01.

### **Doctorate Degree (Mumbai Campus) : 34**

Ph.D. (Tech) in Chemical Engineering: 07, Ph.D. (Tech) in Pharmaceutics: 03, Ph.D. (Tech) in Pharmaceutical Chemistry: 02, Ph.D. (Tech) in Green Technology: 02, Ph.D. (Tech) in Mechanical Engineering: 01, Ph.D. (Tech) in Surface Coating Technology: 01, Ph.D. (Tech) in Bioprocess Technology: 03, Ph.D. (Tech) in Food Biotechnology: 01, Ph.D. (Tech) in Oils, Oleochemicals and Surfactants Technology: 01, Ph.D. (Tech) in Pharmaceutical Technology: 01, Ph.D. (Science) in



Chemistry: 09, Ph.D. (Science) in Physics: 02, Ph.D. (Science) in Biotechnology: 01.

**Doctorate Degree (IOCB Bhubaneswar Campus) : 01**

Ph.D. (Science) in Chemistry: 01.

**UG Degrees : B.Chem.Engg., B.Tech and B.Pharmacy : 259**

B.Chem.Engg.: 82, B.Pharmacy: 32, B.Tech in Dyestuff Technology:21, B.Tech in Food Engineering and Technology: 17, B.Tech in Oils, Oleochemicals and Surfactants Technology: 15, B.Tech in Pharmaceutical Chemistry and Technology: 21, B.Tech in Polymer Engineering and Technology: 21, B.Tech in Surface Coating Technology: 16, B.Tech in Fibres and Textile Processing Technology: 34.

**Integrated M.Tech in Chemical Technology (Marathwada Jalna Campus) : 42**

Energy Engineering:07, Food Engineering and Technology:09, Lipid Engineering:08, Petrochemical Engineering: 05, Pharmaceutical Technology: 06, Polymer and Material Engineering: 07.

**Integrated M.Tech in Chemical Technology (IOCB Bhubaneswar Campus) : 49**

Energy Engineering: 10, Food Engineering and Technology: 07, Fibres and Textiles Processing Technology: 07, Petrochemical Engineering: 09, Pharmaceutical Technology: 06, Polymer and Material Engineering: 10.

## 13th (Regular) Convocation: February 10, 2024



**Masters Degree (Mumbai Campus) : M.Chem. Engg., M.Tech in M.Pharm, M.E. and M.Sc. 15 Candidates.**

M.Chem.Engg.: 18, M.Pharmacy: 14, M.E.: 04, M.Tech in Dyestuff Technology: 07, M.Tech in Pefumery and Flavour Technology: 08, M.Tech in Green Technology: 25, M.Tech in Oils, Oleochemicals and Surfactants Technology: 08, M.Tech in Polymer Engineering and Technolgy: 18, M.Tech in Surface Coating Technogy: 16, M.Tech in Pharmaceutical Chemistry and Technolgy: 14, M.Tech in Pharmaceutical Biotechnology: 08, M.Tech in Fibres and Textile Processing Technology:07, M.Tech in Bioprocess Technology: 15, M.Tech in Food Engineering and Technology: 03, M.Tech in Food Biotechnology: 05.

**Masters Degree (Marathwada jalna Campus) : 34**

M.Tech in Food Engineering and Technology: 16, M.Tech in Pharmaceutical Chemistry and Technolgy: 14, M.Tech in Polymer Engineering and Technolgy: 04.



**Masters Degree (IOCB Bhubaneswar Campus) : 20**

M.Tech in Food Engineering and Technology: 11, M.Tech in Pharmaceutical Chemistry and Technology: 09.

**Doctorate Degree (Mumbai Campus): 62**

Ph.D. (Tech) in Chemical Engineering: 14, Ph.D. (Tech) in Pharmaceutics: 11, Ph.D. (Tech) in Pharmaceutical Chemistry: 03, Ph.D. (Tech) in Green Technology: 03, Ph.D. (Tech) in Mechanical Engineering: 03, Ph.D. (Tech) in Electrical Engineering: 01, Ph.D. (Tech) in Polymer Engineering and Technology: 01, Ph.D. (Tech) in Surface Coating Technology: 01, Ph.D. (Tech) in Bioprocess Technology: 01, Ph.D. (Tech) in Food Engineering and Technology: 03, Ph.D. (Tech) in Food Biotechnology: 02, Ph.D. (Tech) in Oils, Oleochemicals and Surfactants Technology: 01, Ph.D. (Science) in Chemistry: 12, Ph.D. (Science) in Biotechnology: 03, Ph.D. (Science) in Biochemistry: 01, Ph.D. (Science) in Mathematics: 01, Ph.D. (Science) in Physics: 01.

**Doctorate Degree (Marathwada Jalna Campus) : 03**

Ph.D. (Science) in Chemistry: 01, Ph.D. (Science) in Biotechnology: 02.

**Doctorate Degree (IOCB Bhubaneswar Campus) : 03**

Ph.D. (Science) in Chemistry: 02, Ph.D. (Science) in Physics: 01.

**UG Degrees : B.Chem.Engg., B.Tech and B.Pharmacy : 27**

B.Chem.Engg.: 06, B.Pharmacy: 02, B.Tech in Dyestuff Technology: 01, B.Tech in Food Engineering and Technology: 01, B.Tech in Oils, Oleochemicals and Surfactants Technology: 03, B.Tech in Pharmaceutical Chemistry and Technology: 01, B.Tech in Polymer Engineering and Technology: 04, B.Tech in Surface Coating Technology: 03, B.Tech in Fibres and Textile Processing Technology: 06.

**Integrated M.Tech in Chemical Technology (Marathwada Jalna Campus) : 12**

Energy Engineering: 03, Food Engineering and Technology: 01, Lipid Engineering: 01, Petrochemical Engineering: 02, Pharmaceutical Technology: 02, Polymer and Material Engineering: 03.

**Integrated M.Tech in Chemical Technology (IOCB Bhubaneswar Campus) : 07**

Food Engineering and Technology: 01, Fibres and Textiles Processing Technology: 02, Petrochemical Engineering: 02, Pharmaceutical Technology: 02.



## 6.1 TECHNOLOGICAL ASSOCIATION

Technological Association (TA) is the student body of ICT that conducts co-curricular and extra-curricular activities throughout the academic year. The 32-member strong team is presided by the Vice-Chancellor, Prof. A. B. Pandit, while Dean- Student and Alumni Affairs who is ex-officio Vice President. Cultural activities, including those related to music, dance, art, literature are organized by the different clubs under TA. On-campus, award winning festivals are also held such as the annual technical festival of the institute, **Vortex**, that allows students from all over the country to present their innovative ideas and research work and also solve industry defined problems. The annual inter-college cultural festival, **MANZAR** has a plethora of programs, specifically concerts and workshops that serve to enrich the cultural aspect of the institute. The intra-college festival, **FunTech**, is one of the oldest event on campus and involves several sporting and cultural events for all the students ICT. **SportSaga** is the annual inter-college sports festival of the institute that includes both, mainstream sporting as well as informal events and also conducts the trademark ICT Marathon each year.

Marathi Literary Association of Institute of Chemical Technology popularly known as **MANTHAN** is one the oldest club of TA started in 1980. It conducts various kinds of programs every year based on Marathi literature to inculcate and develop liking towards the native state language, Marathi. MANTHAN upholds rich tradition of presenting quality programs. **Sports Club** conducts numerous sports activities with sole aim to promote sports, fitness and team spirit. The events include inter-college tournaments of numerous sports, adventures like mid-night cycling, monsoon trek and faculty games etc. The **TEDx club** organizes activities such as TEDxMAS, MotivaTED and several inspiring talks by renowned personalities.

The in-house technical journal, **Bombay Technologist** is also run under the purview of the TA and encourages the art of scientific writing among students. **Entrepreneurship Cell** (E-Cell) was also launched recently that serves to enhance the entrepreneurial culture at ICT. The TA also addresses student grievances and serves as a link between the faculty members and the students.

## 6.2 UDCT ALUMNI ASSOCIATION

UDCT Alumni Association (UAA) ([udctalumni.org.in/](http://udctalumni.org.in/)) was formed in 1989 to foster fellowship and provide a forum to bring together the alumni of ICT, its past and present faculty members on a common platform. A major activity of the UAA is to promote infrastructure growth at ICT including development of laboratories and also to support student growth both academic and co-curricular. UAA also promotes the activities of the ICT in India and abroad as well as institutes awards and fellowships to alumni/well wishers. For the last over 30 years, UAA has striven hard to achieve its objectives with valuable and timely support of the members, well wishers. UAA currently has more than 8500 life members and 14 Patron members. UAA plays a major role in following specific domains:

### 1. Providing direct financial assistance to ICT :

- To support infrastructure development of the institute
- To support student activities organized by Technological Association
- To support needy students in the form of loans, which students can pay back in installments after graduation
- To provide books in special areas such as management and also assisting the library facilities

### 2. Enhancing studentship at ICT :

- Sponsoring factory visits
- Arranging lectures, seminars, symposia, workshops
- Awarding best students of ICT for their meritorious performance
- Supporting the Training and Placement Service to the ICT current students.
- Encouraging, promoting, supporting providing, spreading and arranging for education

and research in Chemical Technology, Chemical Engineering, Pharmaceutical Sciences and related Basic Sciences, Management studies and related topics.

- A Certificate Course in Practice of Chemical Technology is fully run and supported by UAA specially for the third year undergraduate students with an objective of career guidance and enhancing the knowledge on the practical aspects
- The Postgraduate Diploma Course in Chemical Technology Management (CTM) for the Ph.D. students in ICT is also supported by UAA.

### 3. **Organizing Institution level events :**

- Technology Day and UAA foundation day event where UAA Distinguished Alumnus awards are given to alumni for their contributions to entrepreneurship and professional development In addition, UAA Young achiever award is also given to alumni below the age of 35 years for their exceptional professional achievements
- UAA Annual Day celebrations where UAA Distinguished Alumnus awards are given in the category of Academics, Research and extra mural
- UAA also assists in organization of ICT Foundation and Annual day

### 4. **Managing the Alumni Network : Managing the database of all alumni**

- Managing the database of all alumni
- Increasing UAA Membership Maintaining UAA Website
- Issuing UAA bulletins.

### 5. **UAA Chapters**

UAA has local chapters in the country at Ahmedabad, Ankleshwar, Delhi NCR region, Hyderabad, Kolhapur, Marathwada, Pune, Tarapur and Vapi as well as abroad in China, UK, USA (Atlanta, Houston and Bay area), Singapore, and Thailand

## 6.3 CULTURE OF ENDOWMENTS

The ICT has sanctioned positions of 108 faculty (29 Professors, 38 Associate Professors and 41 Assistant Professors) and a support staff of 240. The ICT has a tradition of establishment of endowments with an objective of supporting faculty positions, foreign travel assistance, merit-cum-means scholarships, staff welfare, library, campus development, research fellowships and seed money for research by young faculty. There are 90 endowments in the Institute. All these endowments have been established through generous donations by alumni, industries, philanthropists and well-wishers. Only part of the interest (up to 50-70%) is used towards the purpose of the endowment and the remaining is ploughed back into the corpus allowing it to grow with time.

### 6.3.1 FACULTY ENDOWMENTS

1. R.T. Mody Professor of Chemical Technology and Director (1933)
2. Sir Dorabji Tata Reader in Pharmaceutical Chemistry (1943)
3. Singhanee Reader in Chemical Engineering (1936)
4. Singhanee Lecturer in Chemical Engineering (1936)
5. Singhanee Lecturer in Pharmacy (1943)
6. Singhanee Lecturer in Paint Technology (1946)
7. Singhanee Associate Lecturer in Chemical Engineering (1936)
8. Singhanee Associate Lecturer in Food Technology (1945)
9. Sir Homi Mehta Reader in Oil Technology (1943)
10. Sir Homi Mehta Associate Lecturer in Food Technology (1943)
11. Darbari Seth Professor of Inorganic Chemical Technology (1995)
12. BPCL Professor of Chemical Engineering (2001) Changed to Bharat Petroleum Distinguished Professor of Chemical Engineering
13. V.V. Mariwala Chair in Chemical Engineering (2004)
14. J.G. Kane Chair of Oil Technology (2008)
15. M.M.Sharma Distinguished Professor of Chemical Engineering (2009)

16. Narotam Sekhsaria Distinguished Professor of Chemical Engineering (2009)
17. R.A. Mashelkar Chair of Chemical Engineering (2009)
18. K.V.Mariwala-J.B. Joshi Chair of Chemical Engineering (2009)
19. Gunavati Kapoor Chair in Pharmaceutical Technology (2009)
20. Dr. John Kapoor lecturer in Pharmaceutical Technology (2010)
21. RCF Professor of Chemical Engineering (2012)
22. Dr. B. P. Godrej Distinguished Professor of Green Chemistry and Sustainability Engineering (2015)

### 6.3.2 VISITING PROFESSORS/FELLOWS/LECTURERS/ORATIONS ENDOWMENTS

There are 51 endowments which have helped us immensely in attracting the best professionals to the Institute from all over the world who have interacted with UG and PG students, faculty and alumni. The honoraria range from Rs. 5000 to 1.25 lakhs for a period of one day to 15 days. Some eminent faculty from institutes such as MIT, Purdue, Cambridge, Monash, UC Berkeley, UCSB, Montreal have taught UG and PG courses in ICT under these endowments. These lectures form part of audit courses for research students. Besides this public lectures are organized under each endowment. All departments have been benefitted and the list is as follows:

#### 1. GENERAL

1. Professor B.D. Tilak Distinguished Lectureship
2. Professor B.D. Tilak Visiting Fellowships.
3. Golden Jubilee Visiting Fellowships.
4. "Late Dr. Balwant S. Joshi Distinguished Visiting Professor/ Indian Scientist in Chemical Engineering / Chemical Technology / Applied Chemistry"
5. Shri. B. S. Rajpurohit Visiting Faculty and Oration
6. Shri D. M. Trivedi Lecture in Green Chemistry and Technology
7. Late Professor W. B. Achwal Oration
8. "Late Dr. Balwant S. Joshi Lectureship in Organic Chemistry (including chemistry of Natural Products)/ Bio-organic Chemistry/Biotechnology" - A Technologist responsible for the development of Indian Chemical Industry.

#### 2. DEPARTMENT OF CHEMICAL ENGINEERING

9. Dr. G.P. Kane Visiting Professorship in Chemical Engineering.
10. The Dow Professor M.M. Sharma Distinguished Visiting Professorship in Chemical Engineering.
11. Shri V.V. Mariwala Visiting Professorship in Chemical Engineering
12. Shri G.M. (alias Dada) Abhyankar Memorial Distinguished Fellowship in Chemical Engineering
13. Professor R.A. Rajadhyaksha Memorial Lecture series.
14. ShrimatiKusumben and Shri Mathradas Kothari Visiting Professorship in Chemical Engineering
15. K. J. Somaiya Visiting Professor of Chemical Engineering
16. Professor Arun S. Mujumdar Visiting Fellowship

#### 3. DEPARTMENT OF SPECIALITY CHEMICAL TECHNOLOGY

17. K.H. Kabbur Memorial Silver Jubilee Lectureship.
18. Professor K. Venkatraman Lectureship.
19. Pidilite Industries Ltd. Visiting fellow in Dyestuff Science & Technology.
20. Dr. KKG Menon Memorial Lecture
21. Sauradip Chemical Industries Pvt. Ltd. Visiting Fellow in the areas of Dyestuff Technology and Textiles Processing Technology"

#### 4. DEPARTMENT OF FIBRES AND TEXTILE PROCESSING TECHNOLOGY

22. Professor G.M. Nabar Endowment Lectureship.



23. L.N. Chemicals ICT Diamond Jubilee Visiting Fellow
24. Class of 1966 Visiting Fellowship.
25. Sauradip Chemical Industries Pvt. Ltd. Visiting Fellow in the areas of Dyestuff Technology and Textiles Processing Technology”
26. Professor M. D. Teli Endowment for Oration and welfare of Students/Support Staff

#### **5. DEPARTMENT OF FOOD ENGINEERING AND TECHNOLOGY**

27. Professor A. Sreenivasan Felicitation Lectureship.
28. Marico Industries Visiting Fellowship
29. ICT - Lupin Visiting Fellowship for Bioprocess Technology

#### **6. DEPARTMENT OF OILS, OLEOCHEMICALS AND SURFACTANTS TECHNOLOGY.**

30. Professor J.G. Kane Visiting Professorship in Chemical Technology
31. Professor J.G. Kane Memorial Lectureship

#### **7. DEPARTMENT OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY**

32. CIPLA Distinguished Visiting Fellowship in Pharmaceutical Sciences
33. Themis Medicare - ICT Diamond Jubilee Distinguished Fellowship in Pharmaceutical Sciences
34. Professor (Mrs.) Malati R. Baichwal Visiting Fellowship in Pharmaceutical Science and Technology
35. AAIPS- Dr. R. S. Baichwal Pharmaceutical Seminar
36. Dr. S.K. Pradhan Endowment
37. Professor V.M. Kulkarni Endowment Fund in Pharmaceutical Science and Technology

#### **8. DEPARTMENT OF POLYMER ENGINEERING AND TECHNOLOGY AND DEPARTMENT OF SURFACE COATING TECHNOLOGY**

38. Shri K. S. S. Raghavan - Chemical Weekly Visiting Professorship in Polymer Science and Technology
39. Indian Plastics Institute (IPI)-ICT Diamond Jubilee Visiting Fellowship in Polymer Processing
40. ChemimpexRastogi-ICT Diamond Jubilee Visiting Fellowship in Surface Coatings.
41. Synpol-ICT Diamond Jubilee Distinguished Visiting Fellow in Science & Technology of Pigment
42. Tipco-ICT Diamond Jubilee Distinguished Visiting Fellow in Thermosets
43. Jayvee Organics & Polymers(P)Ltd. Visiting Fellowship in Polymer Additives and Compounding
44. Shri. Parmanand F. Parikh Endowment
45. Shri B.S. Rajpurohit Visiting Professorship in Polymer Science and Technology
46. Sauradip Chemical Industries Pvt. Ltd. Visiting Fellowship

#### **9. DEPARTMENT OF CHEMISTRY**

47. Dai-Ichi Karkaria Ltd. Visiting Fellowship
48. The DharamsiMorarji Chemical Co. Visiting Fellowship in Chemistry
49. The (Late) Shri. G.D.Gokhale Endowment Lectureship
50. Spinco-Biotech - Ramanathan Lectureship

#### **10. DEPARTMENT OF PHYSICS**

51. Dr. Mooljibhai Shivabhai Patel Trust Visiting Fellowship in Polymer Physics

### 6.3.3 MERIT CUM MEANS FIANANCIAL ASSISTANCESHIPS FOR UG STUDENTS FROM ICT- MUMBAI CAMPUS AND INTEGRATED M.TECH. STUDENTS FROM ICT- IOC ODISHA CAMPUS AT BHUBNESWAR AS WELL AS MARATHWADA JALNA CAMPUS FOR THE YEAR 2025-26

The ICT supports 251 students under merit-cum-means financial assistanceships. The range is Rs. 3000/- to Rs. 1,00,000/ per annum per person through several endowments, private trust and annual commitments by alumni. All economically deprived students are given assistance in the form of tuition fees, hostel fees, mess bills and travel assistance to present papers in national conferences. The names of various Merit-cum-Means Assistanceships are given below.

#### I. GENERAL SCHOLARSHIPS

1. M. S. Patel Trust Merit-cum-Means Scholarship (Four) (Value of Rs. 5,000/- each.)
2. Smt. Badamidevi Chiranjilal Murarka Charity Trust Merit-cum-Means Scholarship (One) (Value of Rs. 3,600/-)
3. Sohrab Mistry Merit-cum-Means Scholarship (One) (Value of Rs. 5,000/- each.)
4. Perin & Jal Khan Merit-cum-Means Scholarship (Three) (Value of Rs. 3,600/- each.)
5. Smt. Parvathy Sitaram Merit-cum-Means Scholarship (One) (Rs. 5,000/- each.)
6. Druman M. Trivedi Merit-cum-Means Scholarship (Two) (Value of Rs. 3,600/- each.)
7. S.L. Venkiteswaran Merit-cum-Means Scholarship (Two) (Value of Rs. 5,000/-each)
8. Late Dr. (Mrs.) Mahalaxmi Bhagwat Merit-cum-Means Scholarship (One) (Value of Rs. 3,600/-)
9. Prof. A.N. Kothare Scholarship (Two) (only for first year, HSC Mumbai Board preferred) (Value of Rs. 5,000/- each).
10. Rukmani and Nagraj Rao Memorial Merit-Cum-Means Scholarship (One) (Value of Rs. 4,000/-)
11. Dr. D.D. Haldavnekar Merit-Cum-Means Scholarship (Five) (Value of Rs.1800/- each.)
12. Smt. Kamala Sankhe Scholarship for girl student (Four) (Value of Rs. 10,000/- each.)
13. Smt. Anuradha Deshmukh memorial scholarship (Two) (Value of Rs. 7000/- each.) (One Chem. Engg., One B.Tech., Girl mostly from hostel)
14. Ramnath Holkar Merit cum Means Scholarship AND Yashvant Holkar Merit cum Means Scholarship (Two) (Value of Rs. 10,000/- each.) (One Chem. Engg., One B.Tech.)
  1. Ramnath Holkar Merit cum Means Scholarship:
  2. Yashvant Holkar Merit cum Means Scholarship:
15. Dr. M. G. Palekar Merit cum Means Scholarship (One) (Value of Rs. 20,000/-)
16. UDCT- Alumni Ass-USA (Chap - 2) Scholarship (Thirty Eight) (Value of Rs. 20,000/- each)
17. Mr. Abhay Udeshi Merit cum Means Scholarship (One) (Value of Rs. 5000/-)

#### II. DEPARTMENT OF DEPARTMENT OF OILS, OLEOCHEMICALS AND SURFACTANTS TECHNOLOGY, DEPARTMENT OF FOOD ENGINEERING AND TECHNOLOGY AND DEPARTMENT OF POLYMER AND SURFACE ENGINEERING

1. Fine Organic Industries Merit-cum-Means Scholarship (Three) (Rs.4500/-each) amount to be decided each year. For the dept. of oil, food and polymer.

#### III. DEPARTMENT OF CHEMICAL ENGINEERING

1. Gogri Brothers Scholarship (Four) (value of Rs. 3,000/- each.)
2. Hemraj Lalji Meishry Scholarship (Two) (Value of Rs. 3,000/- each)
3. Dr. Nandkumar Kochar & Raj Kumar Kochar Trust Scholarship (Two) (Value of Rs.

- 1,000/- each.) (one from S.Y. and one from T.Y. Chem Engg.)
4. Purbhudas Jeevandas Mint Road Wadi Trust Scholarship (Four) (Rs. 3,600/- each).
5. Y. T. Shah Merit-cum-Means Scholarship (One) (Value of Rs. 2,000/-)
6. Vaishnomal Malhotra - K.K. Malhotra Merit-cum-Means Scholarships (Two) (Value of Rs. 7,500/- each)
7. Head Master Muthuswami Merit-cum-Means Scholarship (One) (Value of Rs. 1850/-)
8. Rajendra G. Sardesai Scholarship (Four) (Value of Rs. 20,000/- each)
9. B. Chem. Engg Class of 1962 (Six) (Rs. 5,000/- each).
10. Andanallur Srinivasa Venkatesan & Ranganayaki Scholarship (One) (Rs.3,000/-)
11. Daisy Navaroze Baria Scholarship (One) (Rs. 1,000/-)
12. Dr. Surendra R. Gupta Endowment fund and Merit Cum Means Scholarship.
13. Sarojben and Pratapray Shah Memorial Scholarship (Six) (Value of Rs.75,000/- p.a. each)
14. Shri Kantilal Ajmera Merit cum Means Scholarship (one) (Value of Rs. 5,000/- p.a.) (Only for one UG student of Chem. Engg.)
15. UDCT B. Chem. Engg. Batch 1992 (One) (Rs. 75,000/-)
16. 1978 B. Chem. Engg. batch scholarship (ONE) Rs. 50,000/- to Final year Chemical Engineering student passing out from Third year who is in top 10 ranks and also financially poor (by Mr. S. Kulkarni)
17. Prasad and Pooja Mutalik Merit cum Means Scholarship for Chemical Engineering Students (Two) (Value of Rs. 5,000/- p.a.)
18. 1975 B. Chem. Engg. Batch Scholarship Fund (by (Shri Rajendra Sardesai) (No. of Students 6) (Value of Rs. 5,000/- p.a.)
19. "Scholarship from anonymous alumni from the 1978 B. Chem. Engg. batch" (by Mr. Gautam Shahani) (One) (Value of Rs. 75,000 p.a.) (Only for one needy UG student of Chem. Engg.)
20. Shri H. J. Dave, B. Chem. Engg. (1957) endowment - (by Ms. Bhavna Trivedi) (Two) (Value of Rs. 4,500/- each.) (Only for needy girls)

#### IV. LOAN SCHOLARSHIPS

1. B. Chem. Engg. Class of 1982 (Two) (Value of Rs. 50,000/- each.) (Following candidates are applied for this Loan scholarship for the year mentioned below)  
This Interest free loan assistance per year for the duration of 4 years course and they have to return this assistance within 5yrs. of graduating for the programme or as soon as possible.
2. BHARAT AND KASHMIRA GANDHI ICT UAA NEEDY STUDENT PROGRAM the loan scholarship that can be given to two students. The committee for selection should have one nominee from UAA. Some additional inputs from Bharatbhai are as follows: "Need is first criteria. Good to give one to boy and one girl. Chemical Engineering would be preference if need criteria justifies it." (Two) (Value of Rs. 50,000/- each.)

#### V. DEPARTMENT OF OILS, OLEOCHEMICALS AND SURFACTANTS TECHNOLOGY

1. Castrol Merit-cum-Means Scholarship (Two) (Value of Rs. 4,500/- each)
2. G.M. Alias Abhyankar Merit-cum-Means Scholarship (Three) (Rs.4,000/-each)
3. Shri Keshao Bapurao Kulkarni Scholarship (for one UG student of Dept. of Oils) (Rs. 7500/-)
4. Professor D. R. Rebello Endowment Scholarship (One UG student from Oils Dept. only) (Rs. 5,000 /-)

#### VI. DEPARTMENT OF FIBRES AND TEXTILE PROCESSING TECHNOLOGY



1. Perin & Jal Khan Merit-cum-Means Scholarship (Two) (Value of Rs. 4,000/- each).
2. Mr. Dinshah B. Katrak & Mrs. Goolcheher D. Katrak Merit-cum-Means Scholarship (One) (Value of Rs. 2,000/-)

#### **VII. DEPARTMENT OF FOOD ENGINEERING AND TECHNOLOGY**

1. “Professor P.J. Dubash Memorial – AFST (I), Mumbai Chapter Endowment Scholarships” (One) (Value of Rs. 20,000/-) for UG B.Tech. student in FET (Food Engineering and Technology Department).

#### **VIII. DEPARTMENT OF POLYMER AND SURFACE ENGINEERING**

1. Kumar R. Basu Memorial Merit-cum-Means Scholarship (Two) (Rs. 3,500/- each) (only PPV)
2. Synpol Memorial Scholarship (Five) (Rs. 3,500/- each.)
3. “Ms. Swati Balwant Bhagwat Merit-cum-means Scholarship” for ONE girl student who has passed first year B. Tech. examination in Dept. of Polymer and Surface Engineering and Technology (Rs. 5000/-)

#### **IX. DEPARTMENT OF DYESTUFF TECHNOLOGY**

1. Colour Chem. Ltd. Merit-cum-Means Scholarship (One) (Value of Rs. 3,600/-)
2. Dr. Kishore Manilal Shah Endowment Merit cum Means Scholarship in Dyestuff Technology (for one UG student from First to Final Year) (Value of Rs. 4400/-)

#### **X. DEPARTMENT OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY**

1. Dr. Krishna S. Manudhane Merit-Cum-Means Scholarship (One) (Rs.1,800/- each)
2. Dr. R.K. Dhote Charitable Trust Merit-Cum-Means Scholarship (Four) (Rs. 3,600/- each.)
3. Dr. Dhiren and Kailas Thakker Endowment Scholarship (Six) (Rs.11,000/-each.) (only for studentn from First to Final year B. Pharm. and B.Tech. (Pharma)

#### **XI. GENERAL SCHOLARSHIPS ON YEAR TO YEAR BASIS**

1. Gunvati Jagan Nath Kapoor Merit Cum Means Scholarship (30) (out of Thirty 16 for B. Pharm. students) (Value of Rs. 45,000/- each) from I, II, III, & IV year B.Tech. (Pharma), B.Tech. (Other Branches), B. Pharm and B. Chem. Engg. From the year 2021 this scholarship will not be a continued scholarship.  
B. Pharm. Pharmaceutical Sciences and Technology  
B. Tech. Other Branches  
Chemical Engineering
2. Mr. Rajen Mariwala Merit-Cum-Means Scholarship (One) (Value of Rs. 8,000/-)
3. Ambuja Educational Institute's Merit-Cum-Means scholarship (Fifteen) (Rs. 10,000/- each).
4. Sandra Shroff Merit-Cum-Means Scholarship (Ten) (Value of Rs.20,000/- each.)
5. “Dr. Purushottam Janardan Kangle Merit-cum-means Scholarship” for SEVEN students from B.Tech. (Textile) and B.Tech. (Dyesstuff) (Rs. 3000/- each.)

#### **XII. SCHOLARSHIPS AWARDED DIRECTLY BY THE OUTSIDE TRUST**

1. Excellence Award of Rs. 1,00,000/- and Certificate of Merit under the Narotam Sekhsaria Foundation (NSF) Scholarship Programme for Undergraduate studies in Engineering Rs. 50,000/-
2. Vishwanath Dore Scholarship (C/o ASRA Scholarship) (One) (Value decided by trust)
3. Arvind Memorial Scholarship (ASRA) (one) (only for F.Y. Chem. Engg. Student who have scored highest marks in chemistry at HSC examination) (Value decided by trust)
4. ISCMA Merit Cum Means Scholarship
  - i) Dyes – 1st, 2nd, 3rd and 4th year – One student each, from 1st, 2nd, 3rd and 4th

- year. Total – 4 students (Rs. 5,000/- cash + certificate)
- ii) Oils – 1st, 2nd, 3rd and 4th year – One student each, from 1st, 2nd, 3rd and 4th year, total – 4 students (Rs. 5,000/- cash + certificate)
  - iii) Textile – 1st, 2nd, 3rd and 4th year – One student each, from 1st, 2nd, 3rd and 4th year total – 4 students (Rs. 5,000/- cash + certificate)
  - iv) Surface coatings – 1st, 2nd, 3rd and 4th year – One student each, from 1st, 2nd, 3rd and 4th year total – 4 students (Rs. 5,000/- cash + certificate)
  - v) Polymer – 1st, 2nd, 3rd and 4th year – One student each, from 1st, 2nd, 3rd and 4th year total – 4 students (Rs. 5,000/- cash + certificate)
  - vi) Food – 1st, 2nd, 3rd and 4th year – One student each, from 1st, 2nd, 3rd and 4th year total – 4 students (Rs. 5,000/- cash + certificate)
  - vii) Pharma – 1st, 2nd, 3rd and 4th year – One student each, from 1st, 2nd, 3rd and 4th year total – 4 students (Rs. 5,000/- cash + certificate)
  - viii) B. Pharm. – 1st, 2nd, 3rd and 4th year – One student each, from 1st, 2nd, 3rd and 4th year total – 4 students (Rs. 5,000/- cash + certificate)
  - ix) Chem. Engg. – 1st, 2nd, 3rd and 4th year – One student each, from 1st, 2nd, 3rd and 4th year, total – 4 students (Rs. 5,000/- cash + certificate)
5. Engineers India Ltd. Scholarship One Rs. 36,000/p. a.
  6. Ekam Scholarship for Engineering Students of Ekam Foundation Mumbai (Only for needy girls) (One) Rs. 50,000/-
  7. Sulzer WISE Scholarship Program for students (Only for needy girls) (Two) (Value decided by trust)

## 6.4 CENTRAL PLACEMENT CELL (ICT MUMBAI)

There is no chemical and allied industry in the country that does not employ graduates of the ICT. Alumni are at the helm of affairs of large number of renowned chemical industries. A placement cell is launched with the participation of the UDCT Alumni Association (UAA) to assist campus placement which begins in the month of July, and continues throughout the year, before the students graduate. The Institute's graduates are highly-sought after by the Indian and global chemical industry and their salaries rank among one of the competitive in the country, even dwarfing the salaries of graduates of the premier branded institutes; placements achieved via campus interviews fetch emoluments ranging from Rs. 4.50 to Rs 18.00 lakhs per annum. What is most striking is that these placements are in hard-core industries relevant to the students training and education, and not in the software industry, which has been a major source for employment for graduates of some of the best institutes in India. With regards to post-graduate research opportunities, a good number of our students are offered admission by some of the world's best universities to pursue post graduate studies. The Institute is one of the few institutions in Asia that is regularly represented in the graduate student bodies of prestigious institutes such as the Massachusetts Institute of Technology, Stanford University, University of California, Berkeley, Caltech, UCSB, Princeton, University of Michigan, Ann Arbor, University of Texas, Carnegie Mellon University, Purdue University, University of Massachusetts, Cambridge University, Imperial College, Manchester University, University of Twente, Monash University, to name a few. All of them receive full financial support. Several universities write to us to recommend good students. Leading foreign universities have signed MOUs for student exchange through proper support for the exchange. This would not have been without the merit of the students, and reputation of faculty and institute. On an average, about 75 students from various degree programmes get such fellowships. Quite a few Ph.D. holders go abroad for post- doctoral studies in reputed institutes; this is directly linked to the quality of research produced and personal standing of the faculty in international community.

Institute has very active Training and Placement Cell which was started under the guidance of Vice Chancellor, Prof. G. D. Yadav in 2010 to organize all the placement and training activities at a central

## 6.5 PAST RECRUITERS





place. It is supported by UAA (UDCT Alumni Association). Prof. Anant Kapdi (Department of Chemistry) is Central Placement coordinator who is assisted by faculty coordinators and student coordinators from each Department. Placement at ICT is a regular year- long activity. Companies from various fields evinced interest in recruiting students from ICT at both, bachelor's and master's levels. ICT has always been a favorite hunting ground for corporates wishing to hire bright young engineers and technologists.

### 6.5.1 INDUSTRIAL INTERNSHIP:

#### ICT Mumbai Campus

All 3<sup>rd</sup> year UG students of B. Chem. Engg., B. Tech. and B. Pharm. undergo 6 weeks in-plant industrial training in various industries. In the academic year 2023-24, they were placed in about 128 different industries.

All masters students of M.Tech., M.E. and M.Sc. (Science) undergo Industrial internship from two-six months. In the academic year 2023-24, masters students were placed in about 98 different industries for industrial internship programme.

### 6.5.3 HIGHER STUDIES:

Many of ICT bachelor students also prefer to go for higher studies outside and almost all the students get fellowship for higher studies.

Some of the Universities where ICT students have got admission are as follows:



## S. M. MOKASHI INCUBATION CENTRE (ICT-NICE)

On the occasion of Republic Day, on January 26, 2021, Institute of Chemical Technology, Mumbai, inaugurated its Incubation Centre - S. M. Mokashi Incubation Centre for ICT NICE for Nurturing Innovations and Catalysing Entrepreneurship". In 2024, ICT-NICE Venture Incubator and Foundation, a Section 8 not-for-profit company was established to foster entrepreneurship amongst the ICT students, alumni and faculties. Incubation at ICT-NICE Venture Incubator and Foundation is governed by the ICT Innovation and Start-up Policy formulated and implemented in 2020.

ICT-NICE currently hosts 10 incubatees and 12 pre-incubatees in the areas of Chemical Engineering, Chemical Technology, Pharmaceutical Sciences and Technology, Food Technology, Biotechnology, and Green technology.

ICT-NICE Venture Incubator and Foundation has recently been awarded the prestigious Inclusive Technology Business Incubator (NIDHI-iTBI) grant by the Department of Science and Technology, Government of India, for nurturing and developing the Innovation and

Entrepreneurship ecosystem, in line with National Innovation and Start-up Policy (NISP) 2019.

### Themes:

Healthcare & Biotechnology	Agriculture & Rural Development
Chemical Technology	Pharmaceuticals
Nanotechnology	Polymer Technology
Oil Technology	Fibers & Textile Processing
Food Processing	Waste management.
Clean & Portable water	Other allied technologies

### Achievements:

- Two Pre-incubatee teams emerged as Smart India Hackathon 2022 Winners
- ICT student team led by Suraj Kapale & Harshal Patil with Esha Attar, Shruti Ghadge, Lelona Pradhan, and Dnyaneshwar Doke won the Smart India Hackathon 2022 organised by AICTE and cash prize of Rs 1 lakh in the Senior hardware category at IIT Roorkee for their innovation Zero Spillage Milking Can.
- Greenshift Energy Pvt. Ltd. received BIRAC BIG Grant of 50 lakhs and Brihanmumbai Municipal Corporation (BMC) grants to explore and scaleup value addition options for agricultural, horticultural and green waste.
- Instavet Biopharm Pvt. Ltd. received BIRAC BIG grant of 50 lakhs to develop veterinary diagnostics
- Biokraft Pvt. Ltd. received total of 20.75 lakhs grants & Investments from DST-NIDHI Prayas, MeitY EIR & DST-NIDHI SSS to developing sustainable, ethical, and high-quality meat alternatives.
- Reega Industries received 25 Lakhs RAFTAR grant to develop Preservative Free Juices.
- Agrokisan LLP received 5 Lakhs RAFTAR grant for developing Zero Spillage Milking Can.
- National Bio Entrepreneurship Competition 2022 organized by C-CAMP Bangalore won by ICT team for innovation in 'Vegan Leather using Natural Fibres and Biopolymers which is completely biodegradable'. Hue and Dye team.



# Anti-Ragging Laws and Notifications of UGC





## REGULATIONS ON CURBING THE MENACE OF RAGGING IN HIGHER EDUCATION INSTITUTIONS, 2009

NO. F 1-16/2007 (CPP-II)

April, 2009

In exercise of the powers conferred by Clause (g) of Sub-Section (1) of Section 26 of the University Grants Commission Act, 1956, the University Grants Commission hereby makes the following Regulations, namely-

### 7.1 TITLE, COMMENCEMENT AND APPLICABILITY

- 7.1.1. These regulations shall be called the “UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009”.
- 7.1.2. They shall come into force with immediate effect.
- 7.1.3. They shall apply to all the universities established or incorporated by or under a Central Act, a Provincial Act or a State Act, to all institutions deemed to be university under Section 3 of the UGC Act, 1956, to all other higher educational institutions, including the departments, constituent units and all the premises (academic, residential, sports, canteen, etc) of such universities, deemed universities and other higher educational institutions, whether located within the campus or outside, and to all means of transportation of students whether public or private.

### 7.2 OBJECTIVE

To root out ragging in all its forms from universities, colleges and other educational institutions in the country by prohibiting it by law, preventing its occurrence by following the provisions of these Regulations and punishing those who indulge in ragging as provided for in these Regulations and the appropriate law in force.

### 7.3 DEFINITIONS FOR THE PURPOSES OF THESE REGULATIONS

- 7.3.1 “College” means any institution, whether known as such or by any other name, which provides for a programme of study beyond 12 years of schooling for obtaining qualification from a university and which, in accordance with the rules and regulations of such university, is recognized as competent to provide for such programme of study and present students undergoing such programme of study for the examination for the award of such qualification.
- 7.3.2 “Head of the institution” means the ‘Vice-Chancellor’ in case of a university/deemed to be university, ‘Principal’ in case of a college, ‘Director’ in case of an institute.
- 7.3.3 “Institution” means a higher educational institution (HEI), like a university, a college, an institute, etc. imparting higher education beyond 12 years of schooling leading to a degree (graduate, postgraduate and/or higher level) and/or to a university diploma.
- 7.3.4 “Ragging” means the following:  
Any conduct whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness any other student, indulging in rowdy or undisciplined activities which causes or is likely to cause annoyance, hardship or psychological harm or



to raise fear or apprehension thereof in a fresher or a junior student or asking the students to do any act or perform something which such student will not in the ordinary course and which has the effect of causing or generating a sense of shame or embarrassment so as to adversely affect the physique or psyche of a fresher or a junior student.

- 7.3.5 “Statutory/Regulatory body” means a body so constituted by a Central/ State Government legislation for setting and maintaining standards in the relevant areas of higher education, such as the All India Council for Technical Education (AICTE), the Bar Council of India (BCI), the Dental

Council of India (DCI), the Distance Education Council (DEC), the Indian Council of Agricultural Research (ICAR), the Indian Nursing Council (INC), the Medical Council of India (MCI), the National Council for Teacher Education (NCTE), the Pharmacy Council of India (PCI), etc. and the State Higher Education Councils.

- 7.3.6 “University” means a university established or incorporated by or under a Central Act, a Provincial Act or a State Act, an institution deemed to be university under Section 3 of the UGC Act, 1956, or an institution specially empowered by an Act of Parliament to confer or grant degrees.

## 7.4. PUNISHABLE INGREDIENTS OF RAGGING

Abetment to ragging;

Criminal conspiracy to ragging;

Unlawful assembly and rioting while ragging; Public nuisance created during ragging; Violation of decency and morals through ragging; Injury to body, causing hurt or grievous hurt; Wrongful restraint;

Wrongful confinement; Use of criminal force;

Assault as well as sexual offences or unnatural offences; Extortion;

Criminal trespass; Offences against property; Criminal intimidation;

Attempts to commit any or all of the above mentioned offences against the victim(s);

Physical or psychological humiliation;

All other offences following from the definition of “Ragging”.

## 7.5 MEASURES FOR PROHIBITION OF RAGGING AT THE INSTITUTION LEVEL

- 7.5.1 The institution shall strictly observe the provisions of the Act of the Central Government and the State Governments, if any, or if enacted, considering ragging as a cognizable offence under the law on a par with rape and other atrocities against women and ill-treatment of persons belonging to the SC/ST, and prohibiting ragging in all its forms in all institutions.

- 7.5.2 Ragging in all its forms shall be totally banned in the entire institution, including its departments, constituent units, all its premises (academic, residential, sports, canteen, etc.) whether located within the campus or outside and in all means of transportation of students whether public or private.

- 7.5.3 The institution shall take strict action against those found guilty of ragging and/or of abetting ragging.

## 7.6 MEASURES FOR PREVENTION OF RAGGING AT THE INSTITUTION LEVEL

### 7.6.1 BEFORE ADMISSIONS:

- 7.6.1.1 The advertisement for admissions shall clearly mention that ragging is totally banned in the institution, and anyone found guilty of ragging and/or abetting ragging is liable to be punished appropriately (for punishments, ref. section 8 below).
- 7.6.1.2 The brochure of admission/instruction booklet for candidates shall print in block letters these Regulations in full (including Annexures).
- 7.6.1.3 The 'Prospectus' and other admission related documents shall incorporate all directions of the Supreme Court and /or the Central or State Governments as applicable, so that the candidates and their parents/ guardians are sensitized in respect of the prohibition and consequences of ragging. If the institution is an affiliating university, it shall make it mandatory for the institutions under it to compulsorily incorporate such information in their 'Prospectus'.
- 7.6.1.4 The application form for admission/ enrollment shall have a printed undertaking, preferably both in English/Hindi and in one of the regional languages known to the institution and the applicant (English, Hindi and Marathi versions appended), to be filled up and signed by the candidate to the effect that he/she is aware of the law regarding prohibition of ragging as well as the punishments, and to the effect that he/she has not been expelled and/or debarred from admission by any institution and that he/she, if found guilty of the offence of ragging and/or abetting ragging, is liable to be punished appropriately.
- 7.6.1.5 The application form shall also contain a printed undertaking, preferably both in English/ Hindi and in one of the regional languages known to the institution and the parent/ guardian (English Hindi and Marathi versions appended), to be signed by the parent/ guardian of the applicant to the effect that he/ she is also aware of the law in this regard and agrees to abide by the punishment meted out to his/ her ward in case the latter is found guilty of ragging and/or abetting ragging.
- 7.6.1.6 The application for admission shall be accompanied by a document in the form of the School Leaving Certificate/Transfer Certificate/ Migration Certificate/ Character Certificate which shall include a report on the behavioral pattern of the applicant, so that the institution can thereafter keep intense watch upon a student who has a negative entry in this regard.
- 7.6.1.7 A student seeking admission to the hostel shall have to submit additional undertaking in the form of 6.1.4 (both Parts) along with his/ her application for hostel accommodation.
- 7.6.1.8 At the commencement of the academic session the Head of the Institution shall convene and address a meeting of various functionaries/agencies, like Hostel Wardens, representatives of students, parents/ guardians, faculty, district administration including police, to discuss the measures to be taken to prevent ragging in the Institution and steps to be taken to identify the offenders and punish them suitably.
- 7.6.1.9 To make the community at large and the students in particular aware of the dehumanizing effect of ragging, and the approach of the institution towards those indulging in ragging, big posters (preferably multicolored with different colours for the provisions of law, punishments, etc.) shall be prominently displayed on all Notice Boards of all departments, hostels and other buildings as well as at vulnerable places. Some of such posters shall be



of permanent nature in certain vulnerable places.

- 7.6.1.10 The institution shall request the media to give adequate publicity to the law prohibiting ragging and the negative aspects of ragging and the institution's resolve to ban ragging and punish those found guilty without fear or favour.
- 7.6.1.11 The institution shall identify, properly illuminate and mark all vulnerable locations.
- 7.6.1.12 The institution shall tighten security in its premises, especially at the vulnerable places. If necessary, intense policing shall be resorted to at such points at odd hours during the early months of the academic session.
- 7.6.1.13 The institution shall utilize the vacation period before the start of the new academic year to launch wide publicity campaign against ragging through posters, leaflets, seminars, street plays, etc.
- 7.6.1.14 The faculties/ departments/ units of the institution shall have induction arrangements (including those which anticipate, identify and plan to meet any special needs of any specific section of students) in place well in advance of the beginning of the academic year with a clear sense of the main aims and objectives of the induction process.

## **7.6.2 ON ADMISSION:**

- 7.6.2.1 Every fresh student admitted to the institution shall be given a printed leaflet detailing when and to whom he/she has to turn to for help and guidance for various purposes (including Wardens, Head of the institution, members of the anti-ragging committees, relevant district and police authorities), addresses and telephone numbers of such persons/authorities, etc., so that the fresher need not look up to the seniors for help in such matters and get indebted to them and start doing things, right or wrong, at their behest. Such a step will reduce the freshers dependence on their seniors.
- 7.6.2.2 The institution through the leaflet mentioned above shall explain to the new entrants the arrangements for their induction and orientation which promote efficient and effective means of integrating them fully as students.
- 7.6.2.3 The leaflet mentioned above shall also inform the freshers about their rights as bona fide students of the institution and clearly instructing them that they should desist from doing anything against their will even if ordered by the seniors, and that they have nothing to fear as the institution cares for them and shall not tolerate any atrocities against them.
- 7.6.2.4 The leaflet mentioned above shall contain a calendar of events and activities laid down by the institution to facilitate and complement familiarization of freshers with the academic environment of the institution.
- 7.6.2.5 The institution shall also organize joint sensitization programmes of 'freshers' and seniors.
- 7.6.2.6 Freshers shall be encouraged to report incidents of ragging, either as victims, or even as witnesses.

## **7.6.3 AT THE END OF THE ACADEMIC YEAR:**

- 7.6.3.1 At the end of every academic year the Vice-Chancellor/ Dean of Students Welfare/ Director/ Principal shall send a letter to the parents/ guardians of the students who are completing the first year informing them about the law regarding ragging and the punishments, and appealing to them to impress upon their wards to desist from indulging in ragging when they come back at the beginning of the next academic session.
- 7.6.3.2 At the end of every academic year the institution shall form a 'Mentoring Cell' consisting of Mentors for the succeeding academic year. There shall be as many levels or tiers of

Mentors as the number of batches in the institution, at the rate of 1 Mentor for 6 freshers and 1 Mentor of a higher level for 6 Mentors of the lower level.

#### **7.6.4 SETTING UP OF COMMITTEES AND THEIR FUNCTIONS:**

- 7.6.4.1 The Anti-Ragging Committee:- The Anti-Ragging Committee shall be headed by the Head of the institution and shall consist of representatives of faculty members, parents, students belonging to the freshers' category as well as seniors and non-teaching staff. It shall monitor the anti-ragging activities in the institution, consider the recommendations of the Anti-Ragging Squad and take appropriate decisions, including spelling out suitable punishments to those found guilty.
- 7.6.4.2 The Anti-Ragging Squad:- The Anti-Ragging Squad shall be nominated by the Head of the institution with such representation as considered necessary and shall consist of members belonging to the various sections of the campus community. The Squad shall have vigil, oversight and patrolling functions. It shall be kept mobile, alert and active at all times and shall be empowered to inspect places of potential ragging and make surprise raids on hostels and other hot spots. The Squad shall investigate incidents of ragging and make recommendations to the Anti-Ragging Committee and shall work under the overall guidance of the said Committee.
- 7.6.4.3 Monitoring Cell on Ragging:- If the institution is an affiliating university, it shall have a Monitoring Cell on Ragging to coordinate with the institutions affiliated to it by calling for reports from the Heads of such institutions regarding the activities of the Anti-Ragging Committees, Squads, and Mentoring Cells, regarding compliance with the instructions on conducting orientation programmes, counseling sessions, etc., and regarding the incidents of ragging, the problems faced by wardens and other officials, etc. This Cell shall also review the efforts made by such institutions to publicize anti-ragging measures, cross-verify the receipt of undertakings from candidates/students and their parents/guardians every year, and shall be the prime mover for initiating action by the university authorities to suitably amend the Statutes or Ordinances or By-laws to facilitate the implementation of anti ragging measures at the level of the institution.

In accordance with the regulations set by UGC, an Anti-Ragging Committee and Anti-Ragging Squad has been constituted by the institute.

#### **7.6.5 OTHER MEASURES:**

- 7.6.5.1 The Annexures mentioned in sub-clauses 6.1.4, 6.1.5 and 6.1.7 of these Regulations shall be furnished at the beginning of each academic year by every student, that is, by freshers as well as seniors.
- 7.6.5.2 The institution shall arrange for regular and periodic psychological counseling and orientation for students (for freshers separately, as well as jointly with seniors) by professional counselors during the first three months of the new academic year. This shall be done at the institution and department/ programme levels. Parents and teachers shall also be involved in such sessions.
- 7.6.5.3 Apart from placing posters mentioned in sub-clause 6.1.9 above at strategic places, the institution shall undertake measures for extensive publicity against ragging by means of audio-visual aids, by holding counseling sessions, workshops, painting and design competitions among students and other methods as it deems fit.
- 7.6.5.4 If the institution has B.Ed, and other Teacher training programmes, these courses shall be mandated to provide for anti-ragging and the relevant human rights appreciation inputs, as well as topics on sensitization against corporal punishments and checking of bullying

amongst students, so that every teacher is equipped to handle at least the rudiments of the counseling approach.

- 7.6.5.5 Wardens shall be appointed as per the eligibility criteria laid down for the post reflecting both the command and control aspects of maintaining discipline, as well as the softer skills of counseling and communicating with the youth outside the class-room situations. Wardens shall be accessible at all hours and shall be provided with mobile phones. The institution shall review and suitably enhance the powers and perquisites of Wardens and authorities involved in curbing the menace of ragging.
- 7.6.5.6 The security personnel posted in hostels shall be under the direct control of the Wardens and assessed by them.
- 7.6.5.7 Private commercially managed lodges and hostels shall be registered with the local police authorities, and this shall be done necessarily on the recommendation of the Head of the institution. Local police, local administration and the institutional authorities shall ensure vigil on incidents that may come within the definition of ragging and shall be responsible for action in the event of ragging in such premises, just as they would be for incidents within the campus. Managements of such private hostels shall be responsible for not reporting cases of ragging in their premises.
- 7.6.5.8 The Head of the institution shall take immediate action on receipt of the recommendations of the Anti-Ragging Squad. He/ She shall also take action suo moto if the circumstances so warrant.
- 7.6.5.9 Freshers who do not report the incidents of ragging either as victims or as witnesses shall also be punished suitably.
- 7.6.5.10 Anonymous random surveys shall be conducted across the 1<sup>st</sup> year batch of freshers every fortnight during the first three months of the academic year to verify and cross-check whether the campus is indeed free of ragging or not. The institution may design its own methodology of conducting such surveys.
- 7.6.5.11 The burden of proof shall lie on the perpetrator of ragging and not on the victim.
- 7.6.5.12 The institution shall file an FIR with the police / local authorities whenever a case of ragging is reported, but continue with its own enquiry and other measures without waiting for action on the part of the police/ local authorities. Remedial action shall be initiated and completed within the one week of the incident itself.
- 7.6.5.13 The Migration / Transfer Certificate issued to the student by the institution shall have an entry, apart from those relating to general conduct and behaviour, whether the student has been punished for the offence of committing or abetting ragging, or not, as also whether the student has displayed persistent violent or aggressive behaviour or any inclination to harm others.
- 7.6.5.14 Preventing or acting against ragging shall be the collective responsibility of all levels and sections of authorities or functionaries in the institution, including faculty, and not merely that of the specific body/ committee constituted for prevention of ragging.
- 7.6.5.15 The Heads of institutions other than universities shall submit weekly reports to the Vice-chancellor of the university the institution is affiliated to or recognized by, during the first three months of new academic year and thereafter each month on the status of compliance with anti-ragging measures. The Vice Chancellor of each university shall submit fortnightly reports of the university, including those of the Monitoring Cell on Ragging in case of an affiliating university, to the Chancellor.
- 7.6.5.16 Access to mobile phones and public phones shall be unrestricted in hostels and campuses, except in class-rooms, seminar halls, library etc. where jammers shall be installed to restrict the use of mobile phones.



### **7.6.6 MEASURES FOR ENCOURAGING HEALTHY INTERACTION BETWEEN FRESHERS AND SENIORS:-**

- 7.6.6.1 The institution shall set up appropriate committees including the course-in-charge, student advisor, Warden and some senior students to actively monitor, promote and regulate healthy interaction between the freshers and senior students.
- 7.6.6.2 Freshers' welcome parties shall be organized in each department by the senior students and the faculty together soon after admissions, preferably within the first two weeks of the beginning of the academic session, for proper introduction to one another and where the talents of the freshers are brought out properly in the presence of the faculty, thus helping them to shed their inferiority complex, if any, and remove their inhibitions.
- 7.6.6.3 The institution shall enhance the student-faculty interaction by involving the students in all matters of the institution, except those relating to the actual processes of evaluation and of faculty appointments, so that the students shall feel that they are responsible partners in managing the affairs of the institution and consequently the credit due to the institution for good work/ performance is due to them as well.

## **7.7 MEASURES AT THE UGC/ STATUTORY/ REGULATORY BODY LEVEL**

### **7.7.1 REGULATORY MEASURES:**

- 7.7.1.1 The UGC and other Statutory /Regulatory bodies shall make it mandatory for the institutions to compulsorily incorporate in their 'Prospectus' the directions of the Supreme Court and/or the Central or State Governments with regard to prohibition and consequences of ragging, and that non-compliance with the directives against ragging in any manner whatsoever shall be considered as lowering of academic standards by the erring institution making it liable for appropriate action.
- 7.7.1.2 The UGC (including NAAC and UGC Expert Committees visiting institutions for various purposes) and similar Committees of other Statutory/Regulatory bodies shall cross-verify that the institutions strictly comply with the requirement of getting the undertakings from the students and their parents/ guardians as envisaged under these Regulations.
- 7.7.1.3 The UGC and other funding bodies shall make it one of the conditions in the Utilization Certificate for sanctioning any financial assistance or aid to the institution under any of the general or special schemes that the institution has strictly complied with the anti-ragging measures and has a blemish-less record in terms of there being no incidents of ragging during the period pertaining to the Utilization Certificate.
- 7.7.1.4 The NAAC and other accrediting bodies shall factor in any incident of ragging in the institution while assessing the institution in different grades.

### **7.7.2 INCENTIVES FOR CURBING RAGGING:**

- 7.7.2.1 The UGC shall consider providing special/ additional annual financial grants-in-aid to those eligible institutions which report a blemish-less record in terms of there being no incidents of ragging.
- 7.7.2.2 The UGC shall also consider instituting another category of financial awards or incentives for those eligible institutions which take stringent action against those responsible for incidents of ragging.
- 7.7.2.3 The UGC shall lay down the necessary incentive for the post of Warden in order to attract the right type of eligible candidates, and motivate the incumbents.

### 7.7.3 MONITORING MECHANISM TO ENSURE COMPLIANCE:

Apart from the monitoring mechanism built in under different sub-clauses of these Regulations, there shall also be the following monitoring mechanism:

- 7.7.3.1 The UGC shall constitute an Inter-Council Committee for prevention of Ragging consisting of representatives of the AICTE, the IITs, the NITs, the IIMs, the MCI, the DCI, the NCI, the ICAR and such other bodies which have to deal with higher education to coordinate and monitor the anti-ragging movement across the country and to make certain policy decisions. The said Committee shall meet at least twice a year in the normal course.
- 7.7.3.2 The UGC shall also have an Anti-Ragging Cell within the Commission as an institutional mechanism to provide secretarial support for collection of information and monitoring, and to coordinate with the State level and university level Committees for effective implementation of anti-ragging measures.

## 7.8 PUNISHMENTS

### 7.8.1 AT THE INSTITUTION LEVEL:

Depending upon the nature and gravity of the offence as established by the Anti-Ragging Committee of the institution, the possible punishments for those found guilty of ragging at the institution level shall be any one or any combination of the following:

- 7.8.1.1 Suspension from attending classes and academic privileges
- 7.8.1.2 Withholding/ withdrawing scholarship/ fellowship and other benefits.
- 7.8.1.3 Debarring from appearing in any test/ examination or other evaluation process.
- 7.8.1.4 Withholding results
- 7.8.1.5 Debarring from representing the institution in any regional, national or international meet, tournament, youth festival, etc.
- 7.8.1.6 Suspension/ expulsion from the hostel.
- 7.8.1.7 Cancellation of admission
- 7.8.1.8 Rustication from the institution for period ranging from 1 to 4 semesters
- 7.8.1.9 Expulsion from the institution and consequent debarring from admission to any other institution for a specified period,
- 7.8.1.10 Fine ranging between Rupees 25,000/- and Rupees 1 lakh.
- 7.8.1.11 Collective punishment: When the persons committing or abetting the crime of ragging are not identified, the institution shall resort to collective punishment.

### 7.8.2 AT THE UNIVERSITY LEVEL IN RESPECT OF INSTITUTIONS UNDER IT:

If an institution under a university (being constituent of, affiliated to or recognized by it) fails to comply with any of the provisions of these Regulations and fails to curb ragging effectively, the university may impose any one or any combination of the following penalties on it:

- 7.8.2.1 Withdrawal of affiliation/ recognition or other privileges conferred on it
- 7.8.2.2 Prohibiting such institution from presenting any students then undergoing any programme of study therein for the award of any degree/diploma of the university
- 7.8.2.3 Withholding grants allocated to it by the university, if any
- 7.8.2.4 Withholding any grants channelised through the university to the institution
- 7.8.2.5 Any other appropriate penalty within the powers of the university.

**7.8.3 AT THE APPOINTING AUTHORITY LEVEL:**

The authorities of the institution, particularly the Head of the institution, shall be responsible to ensure that no incident of ragging takes place in the institution. In case any incident of ragging takes place, the Head shall take prompt and appropriate action against the person(s) whose dereliction of duty lead to the incident. The authority designated to appoint the Head shall, in its turn, take prompt and appropriate action against the Head.

**7.8.4 AT THE UGC/STATUTORY/REGULATORY BODY LEVEL:**

If an institution fails to curb ragging, the UGC/Statutory/Regulatory body concerned may impose any one or any combination of the following penalties on it:

- 7.8.4.1 Delisting the institution from section 12B of the UGC Act or any similar provision in the Act of the Statutory/Regulatory body concerned
- 7.8.4.2 Withholding any grants allocated to it
- 7.8.4.3 Declaring the institution ineligible for consideration for any assistance under any of the general or special assistance programmes of the UGC/Statutory/ Regulatory body concerned
- 7.8.4.4 Declaring that the institution does not have the minimum academic standards and warning the potential candidates for admission accordingly through public notice and posting on the UGC Website/ Website of the Statutory/Regulatory body concerned.
- 7.8.4.5 Taking such other action within its powers as it may deem fit and impose such other penalties as provided till such time as the institution achieves the objective of curbing ragging.
- 7.8.4.6 Collaborating with one another to work out other possible deterrents.

*NOTE : To fill an online Anti Ragging undertaking please log on to <https://anitragging.in>*





# [UNDERTAKINGS]

## UNDERTAKING TO BE GIVEN BY ALL STUDENTS

I have read all the Rules of Admission and after understanding these rules thoroughly, I have filled in the application form for admission for the current year. The information given by me in my application is true to the best of my knowledge and belief. I understand that if any of the statements made by me in the application form or any information supplied by me in connection with my admission is later on at any time, found to be false or incorrect, my admission will be cancelled, fees forfeited and I may be expelled from the ICT by the Vice Chancellor.

- a) I have not been debarred from appearing at any examination held by any Government constituted or statutory examination authority in India.
- b) I fully understand that the allotment of a course will be made to me depending on my inter se merit, order of preferences given by me and the number of seats available at that point of counseling.
- c) I understand that no document after the last date of submission will be entertained for the purpose of claims or concessions, etc. in connection with my admission unless otherwise mentioned in the rules.
- d) I am fully aware that the Vice Chancellor, ICT or his representative will not make any correspondence with me regarding admission. I am also aware that it is entirely my responsibility to see the notifications in the newspaper(s) and notices on the notice board and website of the ICT.
- e) I am aware that any rule imposed by the Institute such as 'imposing limits on the number of attempts permissible to pass any examination shall be binding on me.
- f) I hereby agree to conform to any Rules, Acts and Laws enforced by Government and I hereby undertake that, I will do nothing either inside or outside the Institute which may result in disciplinary action against me under these rules, acts and laws referred to.
- g) I fully understand that the Vice Chancellor, ICT has a right to expel me from the institute for any infringement of the rules of conduct and discipline prescribed by the Institute or Government and the undertaking given above.
- h) I am fully aware that, I will not be allowed to appear for the examination if I do not attend minimum 75 per cent classes of theory, practical, drawing etc. separately. I am also aware that I will not be allowed to appear for the examination, if I fail to submit satisfactorily all the assignments, jobs, journals, drawings, reports as required within the stipulated period.

### Course

Date:

Name and Signature of the Student

## DECLARATION /UNDERTAKING BY HOSTEL RESIDENTS

I, Mr. /Ms.....,

Programme:....., Dept. ....,

student of **Institute of Chemical Technology (ICT)**, permanent resident of

.....

.....

..... Phone No:.....

(Give permanent home address with telephone no.),

do hereby undertake on this the..... (Day), of..... (Month)..... (Year),

that as a hosteller at ICT Mumbai, I hereby solemnly promise that:-

1. That I shall obey in word and spirit the rules and regulations of the Hostel and any amendments thereof.
2. I shall at all times maintain the discipline and decorum of the Hostel.
3. I shall preserve, tend and safeguard the property of the hostel, and shall not knowingly or otherwise destroy, damage, or deface Hostel property.
4. I shall keep my room and the common grounds of the hostel clean and unsoiled at all times and will make it available for inspection as and when required.
5. I understand that ragging is strictly prohibited and is an offence. Any involvement will lead to disciplinary action from the hostel & institute authorities. I, hereby declare that, both I will not indulge in, nor tolerate ragging, in any form, even in words or intentions.
6. I understand that use of any addictive substance like tobacco, alcohol, narcotic or habit forming drugs, etc., is strictly prohibited in the hostel / Institute. I will be liable for any disciplinary action for indulgence in such activity, viz., smoking, consumption of alcoholic drinks or any other intoxicating substance in the hostel and Institute premises and found under its influence at any point of time / place during my studies in the Institute.
7. I will maintain my valuables in my own custody. The management is not responsible for any loss or damage.
8. I agree that no entry or exit will be made by me from 11:30 PM to 6:00 AM in the Institute, unless specific permission is taken.
9. I understand that prior permission has to be obtained from the competent authority to visit outside campus for bonafide purpose; I will be solely responsible for my safety and protection during my departure and return to the Institute. In case I leave the Institute /hostel without prior permission, Institute can initiate the disciplinary action against me and Institute authorities are not responsible for my safety.
10. In the event, when I take a leave (with permission) to visit hometown or other places, I will be solely responsible for my safety and protection during my departure and return to the Institute.
11. In the event of my parents / guardians or relatives are visiting me, I will inform the Warden in advance and access / contact with them, meeting in the hostel or going out for local visit will be with the consent of the Warden (Written permission).



12. I understand that no friends or outsiders are allowed in the hostel premises. Also, men cannot go to the women's hostel or vice versa if not otherwise stipulated and any such visit will be seen as a serious misconduct, inviting penalty.
13. I will play a proactive role as a student and suggestions / feedback for improvement or any concerns about aspects of hostel life will be brought to the notice of hostel incharge immediately.
14. I will strive to play a proactive role in keeping gender amity and maintain cordial & harmonious relations with all, group, individual and authorities on the campus. I understand that the Institute observes a non-negotiable stand with regard to issues of caste, creed and communal harmony.
15. I understand that my involvement in any unacceptable behavior under the code of conduct and above and any violation of hostel rules will lead to my immediate expulsion from the hostel / Institute.
16. I will not change my allotted room without permission from the authority.
17. I shall ensure that all dues, including any fines or penalties that may have been imposed against me, are paid in time to the Institute.
18. I shall strictly observe and abide by the code of conduct the Hostel.
19. I, hereby declare that, I will neither join in any coercive agitation/strike for the purpose of forcing the authorities of the Institute to solve any problem, nor I will participate in any activity which has a tendency to disturb the peace and tranquility of life of the ICT Hostel premises.
20. I, hereby declare that, I shall be solely responsible for my involvement in any kind of undesirable/ indisciplinary activities outside the campus, and shall be liable for punishment as per the law of the land. I, further understand that, the Institute shall in no way provide any support to me and will not be held responsible for my any such action.
21. I, also declare that, I am not suffering from any serious/contagious ailment and/or any psychiatric/ psychological disorder.
22. I will take all precautionary measures related to COVID-19 and will follow all the instructions laid down related to COVID-19 by the institute authority and by Government authorities from time to time.
23. I, further declare that, my admission may be cancelled, at any stage, if I am found ineligible and/or the information provided by me are found to be incorrect.
24. I, hereby undertake to inform the Institute, about any changes in information submitted by me, in the Application Form and any other documents, including change in addresses and phone nos., from time to time.

**Date:**

**Signature of Student**

#### DECLARATION BY PARENT/ GUARDIAN

I .....  
 ....., (Mother / Father / Guardian) hereby fully endorse the above undertaking/declaration given by my child/ward. And I will endeavour to induce my child/ward to do his/her best to observe the above stated undertaking in words and spirit.

**Place:** .....

**Signature of Mother / Father / Local Guardian**

**Date:** .....



# INSTITUTE OF CHEMICAL TECHNOLOGY

(UNIVERSITY UNDER SECTION 3 OF UGC ACT 1956)

MATUNGA, MUMBAI - 400 019

## UNDERTAKING TO BE GIVEN BY UNDERGRADUATE, POST-GRADUATE AND DOCTORAL STUDENTS

1. I, the undersigned, understand that confirmation of my admission is subject to passing the qualifying examination i.e. \_\_\_\_\_ with at least \_\_\_\_% (\_\_\_ CGPA) of the aggregate marks and hence my admission will be effective only when I submit the proof to that effect. If I fail to produce the result of the qualifying examination before the end of first semester for any reasons, I shall be declared ineligible for the said admission and all the fees which I have paid shall be forfeited.
2. After declaration of the result of the qualifying examination, I shall obtain the Eligibility Certificate of the ICT as per the Rules. For M.Chem.Engg. M.Pharm. M.Tech. Courses and M.E. Plastic the last date for applying for Eligibility is 31<sup>st</sup> August (every year). (For other than ICT students only)
3. **Attendance:**
  - (a) I am required to attend the research related activities from the first day of joining the institute and if I fail to do so my admission will stand cancelled.
  - (b) I shall sign regularly the muster kept in the office of respective Department / Research Supervisor.
  - (c) I shall take prior permission of my Research Supervisor for any leave in writing.
4. **Fellowship:**
  - (i) I am aware that fellowship is available only for the GATE/GPAT/NET/CSIR/DBT qualified students for master's programmes and for all Doctoral programmes.
  - (ii) I am aware that my fellowship commences from the date of confirmation of my admission or date of joining the course, whichever is later.
  - (iii) I am also aware that institute shall not be held responsible for non-receipt of the respective fellowship amount from the funding agency in time. I undertake that I shall pay all the Institute's fees, charges and deposits by the due date declared and in no case I shall give any excuse of non-receipt of the fellowship for non-payment of the same.
  - (iv) I am given to understand that the institute does not have any budgetary provision for the payment of either part of full fellowships. The Institute will disburse the fellowship when the Institute receives the same.
5. As a doctorate student, I am aware that I am required to contribute to the academic / administrative activities of the Institute as per the prescribed norms without expecting any remuneration and the continuation of my fellowship will depend on my satisfactory participation and performance in such activities. Also, I shall abide by the Safety Rules of the Institute and shall undergo required training for the purpose.

Course and Branch: \_\_\_\_\_

Mobile No.: \_\_\_\_\_

email: \_\_\_\_\_

Date:

Name and Signature of the Student

## INSTITUTE OF CHEMICAL TECHNOLOGY

(UNIVERSITY UNDER SECTION 3 OF UGC ACT 1956)

MATUNGA, MUMBAI - 400 019

### UNDERTAKING TO BE GIVEN BY UNDERGRADUATE, POSTGRADUATE AND DOCTORAL STUDENTS

#### USAGE POLICY:

- Electronic resources such as e-journals, e-databases, e-books etc. made available by the Prof. M. M. Sharma Library, ICT Mumbai are for academic use.
- These resources can be searched, browsed and material may be downloaded and printed as single copies of articles as is done in the case of printed library material. Downloading or printing of a complete book or an entire issue or a volume of one or more journals (called systematic downloading) is strictly prohibited.
- Use of robots, spiders or intelligent agents to access, search and/or systematically download from these resources is also prohibited.
- Any violation of this policy will result in penal action as per the rules and regulations of the Institute.
- Please be aware that systematic downloading will cause the publisher to block to the entire community of users @ ICT Mumbai from accessing these resources.

#### USER-UNDERTAKING:

I understand the policy outlined above and undertake to abide by it. I understand that any violation of the policy will result in loss of my library privileges and/or other action as deemed appropriate by the Institute

**Course and Branch:** \_\_\_\_\_

**Mobile No.:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Date:**

**Name and Signature of the Student**



## PROFORMA - B

(For P1/ P2/ P3 Candidates)

(For Physically Handicapped Candidates)

### CERTIFICATE

Photograph  
of the candi-  
date showing  
the Physical  
disability

This is to certify that I have examined Mr./Ms \_\_\_\_\_  
\_\_\_\_\_ on date \_\_\_\_\_. He/She has

(Name of the Physical Disability)

which comes under the sub category

Blindness (P1)/ Speech and Hearing impaired (P2)/ Orthopaedic disorder (P3)

#### Certified that :

1. The percentage of handicap is not less than 40% and is equal to .....%.
2. The disability is permanent in nature.
3. The candidate is capable of carrying out all activities related to theory and practical works as applicable to degree course in Engineering/ Technology without any special concessions and exemptions.
4. This certificate is issued as per the provisions given in the Person with Disability Act, 1995 and its amendments.

This certificate is issued for the purpose of his/ her admission to first year of four years degree course in Technical education for the academic year 2025-26.

Outward No. and Date :

Place :

(Name and Signature)

Director,

All India Institute of

Physically Handicapped, Mumbai

(Or) Dean/ Civil Surgeon of Government Hospital

Seal of the office

(Name of the issuing Authority)

## PROFORMA - B-1

(To be issued on the printed letterhead of the concerned office)

(For Physically Handicapped Candidates)

P3 (Learning Disability) Candidates

LEARNING DISABILITY CLINIC

L.T.M.G, HOSPITAL, SION, MUMBAI 400 022

### CERTIFICATE

Photograph of  
the candidate

Name :

Date:

Age :

Date of Birth :

Date of Registration:

L.D. No.

Father's Name :

Std. :

School/ College Name:

Physical and Neurologic Assessment (Date) :

Psychological Assessment (Date) :

WISC (R) Verbal IQ :

Performance IQ :

Global IQ :

Interpretation :

Educational Assessment (Date) :

WRAT: R

S

A

#### Certified that :

1. The percentage of handicap is not less than 40% and is equal to .....%.
2. The disability is permanent in nature.
3. The candidate is capable of carrying out all activities related to theory and practical works as applicable to degree course in Engineering/ Technology without any special concessions and exemptions.
4. This certificate is issued as per the provisions given in the Person with Disability Act, 1995 and its amendments.

This certificate is issued for the purpose of his/ her admission to first year of four years degree course in Technical education for the academic year 2025-26.

Recommendations

Outward No. and Date :

Place :

(Name and Signature of Issuing authority)

## PROFORMA- E

(Specimen Application form for Cancellation of Admission) (To be submitted in duplicate)

Date:.....

To,

The Vice Chancellor,  
ICT, Mumbai

Respected Sir,

Candidate Full Name: : \_\_\_\_\_

Course : \_\_\_\_\_ Branch : \_\_\_\_\_ Date of Admission : \_\_\_\_\_

ICT Merit Number : \_\_\_\_\_ Amount of fees paid: Rs. : \_\_\_\_\_

Fee Receipt Number and Date : \_\_\_\_\_ (Attach Photocopy)

I request you to kindly cancel my admission in the abovementioned course and return my original documents and refund the fees paid as per the rules.

I understand that the fees will be refunded to me by direct bank transfer to my account.

\_\_\_\_\_  
Signature of Candidate

**For Office use only:**

Full address of the candidate :  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Tel./Mobile No. : \_\_\_\_\_

E mail : \_\_\_\_\_

Amount Paid, Rs.	
Amount Deducted, Rs.	
Amount Refunded, Rs.	
Cheque No. and date	
Bank particulars	

\_\_\_\_\_  
Signature of Accounts Officer

Received the following original documents from the Admission Authority

- 1
- 2
- 3

\_\_\_\_\_  
Signature of the Candidate



## ANNEXURE 1

(On official letterhead)

### TO WHOM-SO-EVER IT MAY CONCERN

This is to certify that, Ms./Mr. \_\_\_\_\_ is working as a permanent, Full-time \_\_\_\_\_ in our \_\_\_\_\_, since \_\_\_\_\_, with total industrial /Teaching experience of \_\_\_\_\_ years \_\_\_\_\_ months.

Ms./Mr. \_\_\_\_\_ has qualified the entrance examination in Ph.D. (Sci./Tech.) in \_\_\_\_\_ and wishes to pursue Ph.D. (Sci./Tech) in \_\_\_\_\_ under the guidance of \_\_\_\_\_, at Institute of Chemical Technology, Mumbai. Our industry /College has no objection regarding his admission at your industry. We take responsibility for releasing his for coursework, experimental work or discussions with the research supervisor as per need. Our industry/College will provide him with the necessary facilities for conducting part of the experimental work at our premises.

We found his responsible, enthusiastic and hardworking during his working tenure. She can prove to be an asset to any organization. We are happy to send her as for pursuing Ph.D. (Sci./Tech.) in \_\_\_\_\_ at your industry. We wish his success in his future endeavors.

Authorized Signatory

## ANNEXURE 2

(Notarized affidavit on Rs 100/- Stamp Paper)

### AFFIDAVIT

I \_\_\_\_\_ intend to take admission for Ph.D. (Tech)/Ph.D. (Sci) in \_\_\_\_\_ Department at Institute of Chemical Technology Mumbai – 19

1. I am registering under UGC Networking Resource Centre – Teacher Category and I know that I will not be entitled for any kind of fellowship/scholarship under this category.
2. I know that a proper timetable must be prepared by me after consulting with the research supervisor along with logbook which need to be signed by research supervisor at Institute of Chemical Technology Mumbai and authenticated by the Head of the Department.
3. I know that I must publish some part of the work in peer reviewed International Journals within two years from the day of registration else my registration stands cancelled.
4. I will not register any Masters student under me in my Institute to avoid research conducted by proxy.

I hereby irrevocably undertake that I shall follow the rules and regulations as laid by the Institute.

Name of the Candidate:

Signature of the Candidate:

Present Address:

## ANNEXURE 3

(Notarized affidavit on Rs 100/- Stamp Paper)

### UNDERTAKING

I \_\_\_\_\_ an adult inhabitant at present residing at \_\_\_\_\_ do hereby state and declare on solemn affirmation as under:

I had passed B.Chem/ B.Tech/ M.Tech/ MChem/..etc from \_\_\_\_\_ in the year \_\_\_\_\_ and desire to avail admission for my further studies i.e. \_\_\_\_\_ programme at Institute of Chemical Technology Mumbai.

I am currently working at \_\_\_\_\_ (Write Employer Industry name) \_\_\_\_\_ since \_\_\_\_\_ .

I declare that I have necessary permission from my employer \_\_\_\_\_ and my employer has no objection for my registration for the \_\_\_\_\_ programme , relevant course work, experimental work and discussion with faculties at Institute of Chemical Technology Mumbai related to \_\_\_\_\_ programme from time to time .

I declare that at the time of enrollment for the \_\_\_\_\_ programme I have not enrolled for any other programme at any other Institute. I also declare that I shall not register any Masters student under myself at my organization.

I declare that all the certificates and documents submitted by me are my own and I will be solely responsible for any discrepancy found in the certificates provided by me.

Signature

Full name of the Candidate



## ANNEXURE 4

(Notarized affidavit on Rs 100/- Stamp Paper)

### UNDERTAKING

I \_\_\_\_\_ an adult inhabitant at present residing at \_\_\_\_\_ do hereby state and declare on solemn affirmation as under:

I had passed B.Chem/B.Tech/M.Tech/MChem/..etc from \_\_\_\_\_ in the year \_\_\_\_\_ and desire to avail admission for my further studies i.e. \_\_\_\_\_ programme at Institute of Chemical Technology Mumbai.

I am currently working at \_\_\_\_ Write government laboratory name \_\_\_\_\_ since \_\_\_\_\_ .

I declare that I have necessary permission from my employer \_\_\_\_\_ and my employer has no objection for my registration for the \_\_\_\_\_ programme , relevant course work, experimental work and discussion with faculties at Institute of Chemical Technology Mumbai related to \_\_\_\_\_ programme from time to time .

I declare that at the time of enrollment for the \_\_\_\_\_ programme I have not enrolled for any other programme at any other Institute. I also declare that I shall not register any Masters student under myself at my organization.

I declare that all the certificates and documents submitted by me are my own and I will be solely responsible for any discrepancy found in the certificates provided by me.

Signature

Full name of the Candidate

# विद्यापीठ गीत श्री रसायन देविका

उद्घोष तुझा जयघोष तुझा  
उत्कर्ष तुझा जल्लोष तुझा  
संघर्ष नको संहार नको  
संदेश तुझा उपदेश असे  
रसायन देविके श्री रसायन देविके ॥ १ ॥

विज्ञानाची एकच भाषा  
विज्ञानाच्या दाही दिशा  
नकोत सीमा विज्ञानाच्या  
जैव रसायन मीलना  
दे ध्यास हा मतिवर्धिने  
रसायन देविके श्री रसायन देविके ॥ २ ॥

नको प्रदूषित भूजलवायु  
विपुल अन्न अन् उदंड आयु  
रोग नको अन् नको चुटीही  
अखंड ऊर्जा निर्मळ पाणी  
अक्षर हरिते जगन्माते  
रसायन देविके श्री रसायन देविके ॥ ३ ॥

मूर्तीवंत तू कीर्तिरक्षिके  
जगन्मान्य तू महन्मंगले  
अभियंती अन् रत्नपारिखे  
शतप्रणाम हो तुज नायिके  
नवक्षितीजे तव चेतना ही  
रसायन देविके श्री रसायन देविके ॥ ४ ॥

गणगणश्री तणतणश्री  
जैवशिवश्री सृष्टिधारिके  
रसायन देविके श्री रसायन देविके  
वंदू गणनायिके श्री रसायन देविके ॥ ५ ॥

कवी : प्राध्यापक डॉ. जी. डी. यादव

दि. २७ फेब्रुवारी २०१२

कुलगुरु, रसायन तंत्रज्ञान संस्था

(प्रथम दीक्षांत समारंभ दिनी प्रकाशित.)

दिनांक ६ मार्च, २०१२

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