INSTITUTE OF CHEMICAL TECHNOLOGY

(Deemed University under Section 3 of UGC Act 1956;
Elite Status and Centre of Excellence – Govt. of Maharashtra)

Handbook

2017-2018

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: 2017-2018

INSTITUTE OF CHEMICAL TECHNOLOGY

(Deemed-to-be-University under Section 3 of the UGC Act 1956)

Elite Status and Centre of Excellence - Govt. of Maharashtra

GRADE 'A' BY MHRD

The Only State Funded Deemed University in India
World Renowned for Quality of Education, Research and Connectivity with Industry
University Par Excellence

Nathalal Parekh Marg, Matunga (C.R.)
Mumbai - 400 019, India
Telephone: (91-22) 3361 1111/ 2222; Fax: (91-22) 3361 1020
E-mail: admission@ictmumbai.edu.in
www.ictmumbai.edu.in

Foundation	UDCT	MUICT	Autonomous Institute	Deemed University
October 1, 1933	University of Bombay	University of Mumbai 2002	University of Mumbai 2004	Septmber 12, 2008

BOARD

Padmavibhushan Dr. R. A. Mashelkar, *FRS,FNA*
Chancellor
CSIR Bhatnagar Fellow and President Global Research Alliance
Former Director General CSIR and Secretary, DSIR, GOI
National Chemical Laboratory, Pune

Padmashree Professor G. D. Yadav, *FNA*
Vice-Chancellor, Chairperson
R.T. Mody Distinguished Professor
J.C. Bose National Fellow (DST-GOI)
Institute of Chemical Technology, Mumbai

Mrs. Sandra Shroff
Chancellor's Nominee who is a Distinguished Academician/ reputed industrialist
Managing Director
United Phosphorous Ltd.

Shri Sitaram Kunte
IAS
Principal Secretary, Minister for
Higher and Technical Education,
Government of Maharashtra

Shri Nikhil Meswani
Member, Distinguished Alumni
Executive Director
Reliance Industries Ltd.

Shri S.M. Mokashi
Member, Distinguished Alumni

Shri M. B. Parekh
Member, Distinguished Alumni
Chairman and Managing Director
Pidilite Industries Ltd.

Shri C.V. Gogri
Member, Distinguished Alumni
Chairman Emeritus
Aarti Industries Ltd.

Professor Devang Khakhar
Member, Head of academic institute/organization of National Importance having international standing
Director, Indian Institute of Technology - Bombay, Mumbai

Shri U. Shekhar
Member, Eminent industrialist nominated by the Board
Chairman
Galaxy Surfactants Ltd.

Professor P. R. Vavia
Member Dean (Academic Programme)
Department of Pharmaceutical Science and Technology
Institute of Chemical Technology
Mumbai

Professor A. B. Pandit
Member (Dean-Human Resource Development)
Department of Chemical Engineering
Institute of Chemical Technology
Mumbai

Professor S. D. Samant
Member (Senior Most Professor)
Department of Chemistry
Institute of Chemical Technology
Mumbai

Professor (Smt.) S.S. Lele
Member Secretary (Registrar)
Department of Food Engineering and Technology
Institute of Chemical Technology
Mumbai

CONTENTS

1. ABOUT ICT

1.1 IMPORTANT INSTRUCTIONS

1. The fees for the submission of a single form for a particular course at ICT are as follows

Course	Open Category	Reserved Category **
Under graduate and Post graduate		
	Rs. 1000/-***	Rs. 750/-***

** **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 online charges may apply)

3. The admission form for the academic year 2017-18 should be filled online on the ICT website, http://www.ictmumbai.edu.in/DisplayPage.aspx?page=ge&ItemID=5

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 frequently.

7. **Merit list/ schedule of admission rounds for all PG courses will be displayed on 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 & interview and changes if any.**

8. Pleading ignorance about information displayed on the web shall not be entertained.

9. Admission to hostel is as per the rules laid down and the quota for various courses.

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.

11. 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.

12. All correspondence regarding admissions 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).

1.2 APPROACH ROUTES TO ICT AND LANDMARKS

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

Landmarks in the vicinity of ICT

The VJTI (Veermata Jijabai Technological Institute) (Backside), Khalsa College, Don Bosco 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 (picture given below). The main building is constructed of a yellowish Malad stone, surrounded by excellent greenery and beautiful gardens. The ICT campus is one of the most 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 the 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)

The 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 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 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.

I. From Chhatrapati Shivaji Internation Airport - Domestic Terminal, Santacruz (East)

Rent either a pre-paid taxi 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. 130, without any traffic jams. It takes about 30-40 minutes.

PROLOGUE

PROFESSOR DR. G. D. YADAV

B.Chem. Eng., Ph.D.(Tech.), F.T.W.A.S., F.N.A.,F.N.A.Sc. F.R.S.C., Ch.E., F.I.Chem.E.(UK), F.M.A.Sc., F.I.I.Ch.E.,F.I.C.S.

Vice-Chancellor and R. T. Mody Distinguished Professor
Padmashree Awardee
Jagdish Chandra Bose National Fellow (DST-GOI)
Adjunct Professor, RMIT University, Australia
Adjunct Professor, University of Saskatchewan, Canada

Welcome

Dear Student,

On behalf of the Institute of Chemical Technology (ICT), which is ranked as a Deemed University of Maharashtra Govt., was placed at Number One among all universities, IISc, Bengaluru and IITs based on the criterion of Normalized Citation Impact Index by the international agency Web of Science in September 2016, I offer you my most heartfelt congratulations on your sterling performance in therecent examination. Like an explorer on the frontiers, you now stand peering at the horizon, wondering about the prospects that lie ahead for you. Although exhilarating, it could also be unnerving; and many of you may have sought the counsel of your elders to guide you through these unfamiliar waters. Regardless of the path that you ultimately choose, I am certain that success will be your companion and in due course, I

hope, you will be successful in your endeavours. As the Vice Chancellor of this institute, I sincerely hope that your credentials and merit fetch you admission to the desired course here and ultimately you would be ourproud alumnus, like scores of others who have brought laurels to us.

Genesis and Growth

Established on October 1, 1933 as the UDCT –University Department of Chemical Technology of the University of Bombay (now Mumbai), with the noble intention of advancing India's knowledge reserves in chemical science and technology, the Institute has grown to become **a premier (Deemed) University devoted to education, training, research and industrial collaboration in chemical engineering, chemical technology, applied chemistry, pharmacy, biotechnology and bio-processing. The Institute's alumni have distinguished themselves in all walks of life, be it in industry, academia, government or public service in India as well as abroad.** Indeed the Institute has produced 19 Padma awardees so far: 3 Padma Vibhushan, 8 Padma Bhushan and 8 Padma Shri. The Chancellor Dr R. A. Mashelkar is Padma Vibhushan and the Vice Chancellor, yours truly, is Padma Shri. This is indeed unique in the history of any institute in India. Some of the rare international honours have been bestowed upon them and some have been role models, serving the nation. The ICT is a rare institute of its kind.

When compared with a large number of engineering and technological institutes, which mushroomed during past 2-3 decades, the genesis of ICT, still popularly called UDCT/UICT by many, is beyond fathom and imagination. Its low profile in common man's vocabulary is both bane and benefit. Even our neighbours have never known what we do or what we stand for- for them it is a *'dagdi' (stone) college or a hospital, at the most;* they are intrigued and bewildered whereas it is a benefit for us from the academic view point since we continue to work quietly, sans the typical college atmosphere, impart high class education, and conduct research par excellence, having a direct relevance to solving societal problems and adding to quality of life. Philanthropy, visionary leadership of the University of Bombay (now Mumbai), active participation of the industry to create endowments for faculty positions and laboratories, and the support of the then Governor of the Province of Bombay, which extended to almost 10% of India, led to the foundation of the University Department of Chemical Technology on October 1, 1933. The Vice Chancellor Sir Vithal Chandavarkar, an industrialist, educationist and proponent of textile industry, put allhis valour behind the fledgling UDCT and assisted in creating a far-sighted roadmap. The Committee constituted by the University for establishing the UDCT was chaired by none other than the great civil engineer Bharat Ratna Sir M. Visvesaraya, and comprised of, among others, such stalwarts as Sir K.M. Munshi, the Founder of BharatiyaVidya Bhavan, and Shri Kapilram Vakil, a doyen of inorganic chemical industry in India. Research was incorporated as an integral part of the UDCT right from inception, and the first batch of students for the B. Sc. (Tech.)- a two-year post-B Sc. Course, with Textile Chemistry and Chemical Engineering as the branches, was admitted on 4th August, 1934. With the growth in demands for chemicals, drugs, polymers and materials after World War II, other branches of chemical technology embracing Foods and Drugs, Oils, Plastics, Paints, Varnishes, Intermediates and Dyes, Pharmaceuticals and Fine Chemicals, were added and these courses were later reorganized to give a distinct flavour to all branches of Chemical Technology. Birth of several industries was a direct result of UDCTs' activities. In 1951, Chemical Engineering branched out as a post-Inter Science four-year degree programme, B. Chem. Eng., which has been the most sought after ever since. The B.Sc. (Tech.) courses were converted into post-B.Sc. three-year courses in 1966 and finally further converted into B. Tech. programmes, which are post-HSSC (12th Standard) in 1998.

The ICT is a vibrant and invigorating institute, a symbiosis of academic excellence, culture, ethos, value systems, and anarchitect of new and useful knowledge, standing tall among all institutes of national importance.

Deemed University; Elite Institute and Centre of Excellence Status

The UDCT grew in stature over the years and was granted partial autonomy by the University of Mumbai in 1985, which was taken to the next echelon under the concept of autonomy propagated by the University Grants Commission (UGC). Financial, academic and administrative autonomy was conferred during the Diamond Jubileein 1993-1994 for a period of five years, which was extended for next 5 years in 1998, followed by another extension of five years. The University thought it appropriate to rename it as the University of Mumbai Institute of Chemical Technology (UICT) on 26th January 2002 to distinguish its grander academic programmes and accomplishments surpassing those of a typical University department. The UICT was granted full autonomy in June 2004 by the State of Maharashtra under the Technical Education Quality Improvement Programme (TEQIP) of the World Bank with complete assistance of the University. Upon a strong recommendation of the UGC through a peer review process, the autonomous institute status was finally converted in to a Deemed-to-be-University by the Ministry of Human Resource Development (MHRD), Govt. of India, on 12th September 2008; a strong recommendation was made that the ICT should be fully supported and its activities strengthened by the Government and the new (deemed) University should commence its functioning from academic year 2009-10.

Based on its stellar performance and national and international accolades, the ICT was declared as Elite Institute and Centre of Excellence by Government of Maharashtra on 20th April 2012 in the State Assembly, on par with national institutes of importance such as IITs, IISc and IISERs. This is a unique distinction in India for a state owned university of any kind and it speaks volumes about the sagacity of the government. It has been made possible through dedicated services, hard work and talent of our faculty, students, alumni and support staff. Now as an Elite Institute, we would like to be an INNOVATION UNIVERSITY, in tune with modern concepts and contemporary speed of creation and dissemination of knowledge; a new trinity based on expansion, inclusion and quality will be our soul. We will create new knowledge to solve the problems of chemical, biological, materials and energy industries in service of the nation and in turn the world. Our vision and mission are thus redefined.

Engineering Challenges and Relevance of Courses

If you are admitted tothis 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 courses have vis-a-via 'white collared' engineering programmes and are these courses as rewarding? No virtual world can be created without materials produced by niche and eco-friendly technologies. We all leave in the world of chemicals, molecules, if you may, 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 USAcademy of Engineering, and which include:

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 you** to tackle these herculean tasks. 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, neutraceuticals, 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 engineeringand the curriculum and courses offered at the Institute have judiciously incorporated subjects from all these disciplines. Our courses directly allow being on the forefront of these rewarding careers.

More importantly, you will be **instructed by some of the nation's most eminent scientists and engineers** who themselves are at the vanguard of research in these fields, thereby ensuring that the knowledge passed onto you is pertinent, real experience 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 longer 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 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; many of them actually earn their salaries through the one-third share of the consultation fees paid to the institute.

National and International Accolades and Ranking

The Institute's **strong multi-disciplinary research programmes** have helped 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 and society and it this eclectic combination ofa 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 from its competitors. 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 different; incredibly different! They wonder how a small university department, with poor funding has managed to excel and that too without any public glareorpublicity? **The magic mantra for our success is a concoction of dedicated faculty, meritorious students, admirable support staff, distinguished alumni, strong connectivity with industry, and assistance to all needy students, a grand alumni association and above all relevance of our courses in wealth creation. It is unsurprising thus thatthe Institute of Chemical Technology is ranked as the best chemical engineering and chemical technology teaching and research institute in India and now stands at number 4 in the world** in an annual ranking of chemical engineering programs conducted by the Georgia Institute of Technology, USA in January, 2012. Different authorities have duly recognized ourspectacular performance over the years. The P. Rama Rao Committee appointed by the AICTE as well as the P. Rama Rao IIT Review Committee has recognized the ICT as the best post-graduate technical educational centre in India. The Indian Institute of Management, Bangalore, after surveying a large number of industries in the country, identified the ICT as the best on the basis of its contribution to the development of chemical and pharmaceutical industry. The Directorate of Technical Education, Government of Maharashtra, has awarded Grade 'A+' to the Institute. The National Board of Accreditation (NBA) had accredited all Bachelors and Masters Courses taught by us and renewal of accreditation has happened in almost all Masters courses and the remaining will be reviewed soon. ICT is also part of Rashtriya Uchhattar Shiksha Abhiyan (RUSA) and is a leader of the innovation part.

Maximizing Research Impact

ICT Mumbai

Based on the category of 'Normalized Citation Impact', The Institute of Chemical Technology. Mumbai is number 1 among all acdemic institutes including IITs, Central Uniersities and IISc. These data are only for the period of last 8 years for ICT whereas for others they are for 30 years. The publications coming out of ICT for 30 years are far more and will further improve its statistics. However, still it is No. 1.

Comparision

Name	Rank	Category Normalized Citation Impact	International Collaborations	Impact Ralative to World	Times Cited
Institute of Chemical Technology, Mumbai	1	0.98	426	0.961	38.983
Indian Institute of Science (IISC) - Banglore	2	0.89	7.434	1.081	517.009
University of Hyerabad	4	0.85	1.906	1.111	130.361
Indian Institute of Technology (IIT) - Delhi	5	0.82	3.495	0.809	207.891
Banaras Hindu University	6	0.68	3.217	0.796	215.270
Jawaharlal Nehru University	7	0.68	1.317	0.722	68.686

The research funding received by ICT is through a highly competitive peer reviewed processes, for which again all these elite institutes are in the race. These statistics are highlighted to demonstrate the uniqueness of ICT.

RANKALA LAKE PURIFICATION



Hon.'ble Shri Vinod Tawde 26th June 2016

RECENT ACCOLADES AND HONOUR RECEIVED

(i) FICCI awarded the "Best Institutional Social Responsibility Award" to ICT and "Life Time Achievement Award" to the Chancellor of ICT, Dr R A Mashelkar at the hands of Professor Arvind Panagharia, Vice Chairman, NITI Ayog in Delhi on November 10, 2016. Shri Mohandas Pai interviewed Professor G. D. Yadav and Dr. Mashelkar. Several Indian and foreign delegates were present.

(ii) Professor G.D. Yadav, Vice Chancellor has been honoured with Honorary Fellowship by Indian Society of Technical Education.

(iii) Professor G.D. Yadav, Vice Chancellor has been elected as Fellow of the Indian Academy of Sciences for his contributions towards education and society in January, 2017. Since 1934, the Academy plays a major role in furthering the cause of science in the country.

(iv) D.Y. Patil University, Kolhapur has conferred D.Sc. (Honoris Causa) to Vice Chancellor, Professor G.D. Yadav during its Fourth Convocation function held on April 13, 2016.

(v) Sadashivrao Mandlik Sugar Factory, Kolhapur has announced "Loknete Sadashivrao Mandlik Smriti Puraskar" to Professor G.D. Yadav for his contributions towards education and society. The award will be bestowed on October 7, 2016, the 82nd birth centenary of Late Sadashivrao Mandlik, in a function organized by the Sugar Factory.

(vi) KG Foundation, Coimbatore has honoured "Eminent Scientist" Award to Professor A.M. Lali for his contributions in the area of bioseperations and biotransformations, and for his major contributions in the Indian biotechnology industry in the areas of microbial and enzymatic biocatalysis and bioseperations on October, 2016.

(vii) Professor Smita Lele, Registrar received "Uncha Maza Zoka" award from Z Marathi for her research with social responsibility.

(viii) Professor S.S. Lele, Registrar, ICT successfully inaugurated the 'Winery Project' in Kharvate – Dahivali, Tal: Chiplun, at Ratnagiri.

(ix) Professor S. S. Bhagwat, Department of Chemical Engineering has been selected for 'INSA Best Teacher Award' by the Indian National Science Academy.

(x) Dr. Shalini S. Arya, Assistant Professor in Food Technology, Department of Food Engineering and Technology has been selected for 'Young Scientist Award 2015' by the Association of Food Scientists and Technologists (INDIA), CSIR CFTRI Campus, Mysore.

(xi) Professor Ashwin Patwardhan, Department of Chemical Engineering has been selected for 'Professor M.M. Sharma Science and Technology Award' by the Marathi Vidyan Parishad. The award will be bestowed in a function organized by Akhil Bhartiya Marathi Vidyan Parishad Adhiveshan on December 17, 2016.

(xii) Dr. D.V. Pinjari, Department of Chemical Engineering and Department of Oils, Oleochemicals and Surfactants Technology has been selected for 'INAE Young Engineer Award 2016' by the Indian National Academy of Engineering (INAE).

(xiii) India Glycols Ltd., Kashipur and DBT-ICT Centre for Energy Biosciences has been awarded the "BIRAC Innovator Award 2016" for "Validation of Technology for production of 3000 Litre ethanol/ day". The technology has been developed at the DBT-ICT Centre for Energy Biosciences.

(xiv) A review published on "Alternative Carbon Sources for Biological Treatment of Nitrate Waste" was selected for the Sir Ganga Ram Memorial Prize by the Institution of Engineers (India). The paper is authored by Dr. P.B. Dhamole (ICTian), Dr. S.F. D'Souza (EX-BARC) and Professor Smita Lele.

(xv) Dr. Parag Gogate, Department of Chemical Engineering has been selected for the Maharashtra State National Award for Outstanding Research Work in Engineering & Technology of the Indian Society of Technical Education for the year 2016.

(xvi) Dr. Prakash D. Vaidya, Department of Chemical Engineering has been selected for the prestigious Bioenergy - Awards for Cutting Edge Research (B- ACER) Fellowship Program 2017 supported by the Department of Biotechnology, Govt. of India, and the Indo-U.S. Science and Technology Forum (IUSSTF).

The research funding received by ICT is through a highly competitive peer reviewed processes, for which again all these elite institutes are in the race. These statistics are highlighted to demonstrate the uniqueness of ICT.

Sixth Convocation function of ICT

Shri C. Vidyasagar Rao, Hon'ble Governor, Government of Maharashtra was the Chief Guest for the Sixth Convocation function of our Institute held on 8th February, 2017. Padmavibhushan Professor M.M. Sharma, Former Director and Distinguished Professor of Eminence, ICT was the Guest of Honour. During this function, Nobel Laureate Professor Jean-Marie Lehn, Professor at College de France in Paris and Nobel Laureate Professor Robert H. Grubbs, Victor and Elizabeth Atkins Professor of Chemistry, California Institute of Technology were bestowed with D.Sc. (Hon.Causa). The sixth batch of the students under the deemed to be university status was bestowed with their respective degrees on this occasion.

Degrees Awarded

- Masters : 233,
- Doctorates: 92,
- Bachelor's : 238,
- DCTM: 9

Nobel Laureate Professor Robert H. Grubbs, Victor and Elizabeth Atkins Professor of Chemistry, California Institute of Technology

Nobel Laureate Professor Jean-Marie Lehn, Professor at Collège de France in Paris

Quality of Faculty

Except three, all members of faculty have doctoral degrees to their credit; several of them have been trained abroad in prestigious institutes after their Ph.D.s, and almost all of them are engaged in research. Over 80% of faculties have been active consultants to industry. Those without Ph.D. are also registered for Ph.D.s. The faculty is highly accomplished, with multi-disciplinary interests and decorated with national and international awards and honours, having live connections with industry. These include: Padma awards of Government of India, Fellowship Royal Society, London, Fellowship of Royal Academy of Engineering, UK, Foreign Associateship of US National Academy of Engineering, Fellowship of TWAS- The Academy of the Developing World, Trieste, Jagdish Chandra Bose National Fellowship, Fellowship of the Royal Society of Chemistry, UK, S.S. Bhatnagar Prizes of CSIR, Young Scientist medals of the Indian National Science Academy, Fellowship of Indian National Science Academy (INSA), Fellowships of the Indian Academy of Sciences, Fellowship of National Academy of Sciences, India (NASI), Fellowship of Indian National Academy of Engineering, Young Engineer award of Indian National Academy of Engineering, Gold Medal of the Society of Dyers & Colourists, UK, etc. Currently three faculty members of Chemical Engineering are fellows of INSA, which is a unique distinction in the country. The honour of rejuvenating and heading the IIChE in 2001 came to the author when a record number of 51 national awards were created through endowments. All major awards of the Indian Institute of Chemical Engineers – Hindustan Lever Award, Herdillia Award, HL Roy Founders Lecturers, several Chemcon Distinguished Speaker Awards, Amar Dyechem Award, A.V. Ramarao Best Ph.D. thesis award, and awards and honours from other professional bodies have been bestowed on the ICT faculty. The Home Paper/Design project awards for chemical engineering have been bagged consistently since 1972 every year except one and it could be a record. Our faculty and alumni have been presidents of several esteemed professional bodies such as Indian Institute of Chemical Engineers, Association of Food Scientists and Technologists, Oil Technologists Association, Colour Society; some of the regional centres of such bodies have been functioning from the premises of our institute.

Culture of Ph.D.s

The first ever Ph.D. degree in Engineering and Technology stream in India was awarded by the ICT in 1941; it was Dr. Kudwa, a chemical engineer, who specialized in Polymers and Paints and was a revered paint technologist. In fact, first 5 Ph Ds in Engineering and Technology in India were awarded by Mumbai University for students of ICT. Since then there is a continuous flow of doctorates and the UGC used to grant us 19 Ph D (Tech) fellowships per year up to 2005-06. During 1990s, the number of Ph Ds produced increased to about 40 per year. For several years the output of doctorates from the ICT remained about 55 per year. However, during 2009-10, exactly 100 Ph.D.s were produced, which is the highest in the country in Chemical Science, Engineering and Technology.

Culture of Endowments

Right from the foundation of the ICT in 1933, several endowments have been created, through munificent donations by philanthropists, industrials houses and alumni, for supporting maintenance of faculty positions, welfare of support staff, fellowships, visiting faculty, infrastructure, domestic and foreign travel, research, library, scholarships, infrastructure, gardens and emergency services. This is an outstanding attribute of the ICT. There are now 45 visiting faculty/fellowship endowments which have helped us immensely in attracting the best professionals to the Institute from all over the world. Visiting faculty interactwith 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 Massachusetts Institute of Technology, Purdue University, University of Twente, Groningen University, 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-

ICT'S PADMA AWARDEES

PADMA VIBHUSHAN

1975
DR. HOMI SETHNA
Chairman,
Atomic Energy Commission

2001
PROFESSOR M.M. SHARMA
F.R.S., F.N.A., F.T.W.A.S.
Former Director,
UDCT/ICT

2014
DR. R.A. MASHELKAR
F.R.S., F.N.A., F.T.W.A.S.
National Professor
National Professor
Chancellor, ICT

PADMA BHUSHAN

1961
PROF. K. VENKATARAMAN
F.N.A.
Director,
National Chemical Laboratory,
Pune and Former Director, UDCT

1972
PROF. B.D. TILAK
F.N.A.
Director, National Chemical Laboratory, Pune and Former Professor of Dyestuff Technology, UDCT,

1974
PROF. A. SREENIVASAN
F.N.A.
Former Head &
Professor of Food Technology,
& Director, CFTRI, Mysore

1987
PROF. M.M. SHARMA
F.R.S., F.N.A., F.T.W.A.S.
Professor of Chemical
Engineering, UDCT

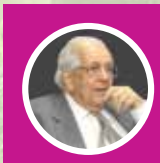
2000
DR. R.A. MASHELKAR
F.R.S., F.N.A., F.T.W.A.S.
Director General, CSIR

2011
DR. K. ANJI REDDY
Chairman,
Dr. Reddy's Laboratory,
Hyderabad

2014
PROF. J.B. JOSHI
F.N.A., F.T.W.A.S.
J. C. Bose National Fellow
Former Director, UICT

2016
DR. A.V. RAMARAO
F.N.A., F.T.W.A.S.
Chairman, AVRA Labs, Hyderabad
Former Director, IICT, Hyderabad

PADMA SHRI



1959
DR. HOMI SETHNA
Director, BARC

1968
DR. G. P. KANE
Former Director, DGTD, and
Former Professor of Chemical
Engineering, UDCT

1991
DR. R.A. MASHELKAR
F.R.S., F.N.A., F.T.W.A.S.
Director, NCL, Pune

1991
DR. A.V. RAMARAO
F.N.A., F.T.W.A.S.
Director, IICT, Hydetrabad

2001
DR. K. ANJI REDDY
Chairman,
Dr Reddy's Laboratory,
Hyderabad

2012
DR. NITYA ANAND
F.N.A.
Former Director,
CDRI, Lucknow

2016
DR. K.H. GHARDA
Chairman & Managing
Director,
Gharda Chemicals Ltd

2016
PROF. G.D. YADAV
F.N.A., F.T.W.A.S.
J. C. Bose National Fellow
Vice Chancellor & R.T. Mody
Distinguished Professor, ICT

THE HIGHEST CIVILAN HONOURS CONFERRED BY THE PRESIDENT OF INDIA ON THE OCCASION OF REPUBLIC DAY - 26TH JANUARY

Madras, National Chemical Laboratory, have taught UG and PG courses in ICT under the aegis of these endowments. These lectures form part of audit and credit courses for research students. Besides, public lectures are organized under each endowment.

Collaborations with Other Institutes and Industries

The ICT has been held in high esteem by both Indian and foreign universities and institutes. A large number of Memorandum of Understanding (MOU) have been signed to have faculty and student exchange, research programmes and joint projects and symposia. We have signed MOUs with IIT-Bombay, VJTI Mumbai,

MOUs with Indian Academia and Industries

1. Akzo Nobel India Ltd. (ANIL)
2. Bio-Rad Laboratories India Pvt. Ltd.
3. Cellworks Research India Pvt. Lt.
4. Coca Cola Ltd.
5. College of Engineering, Pune
6. CSIR-Central Drug Research Institute (CDRI)
7. CSIR-Central Salt and Marine Chemicals Research Institute (CSMCRI), Bhavnagar
8. CSIR- Indian Institute of Chemical Technology, Hyderabad
9. CSIR- Indian Institute of Petroleum (IIP), Dehradun
10. CSIR- National Chemical Laboratory, Pune
11. CSIR-National Environmental Engineering Research Institute (NEERI), Nagpur
12. Dow Chemicals, USA
13. GlaxoSmithKline Consumer HealthCare Ltd., Gurgaon
14. Healers Neutraceuticals India
15. Hindustan Petroleum Corporation Ltd
16. Homi Bhabha National Institute, Mumbai
17. Huntsman, USA
18. IIT-Bombay
19. India Glycol Ltd
20. India Glycols Ltd. Uttarakhand
21. Indian Oil Corporation
22. M/s Sanzyme Limited (Formerly Uni-Sankyo Limited)
23. Marico Industries Ltd
24. Mitsubishi, Japan
25. Neurosci Inc. USA
26. ONGC
27. Pepsi, USA
28. Pfizer Ltd
29. Phoenix Pharmaceuticals USA (3 Projects)
30. Privi Organics Pvt.
31. Queensland University of Technology, Australia
32. RCF Ltd
33. Reliance Industries Ltd
34. SaifeVetmed Pvt. Ltd.
35. Shivaji University, Kolhapur
36. Sun Pharmaceuticals
37. Tata Chemicals Ltd
38. Tata Steel Ltd
39. Trilok Food India
40. Triple Pee Solution Pvt. Ltd.
41. Unilever Industries Pvt. Ltd.
42. VJTI, Mumbai
43. Wockhardt Ltd.
44. Wool Research Association, Thane
45. Yokogowa, Middle East
46. Tata Institute of Social Sciences
47. ONGC Energy Centre Trust
48. GE – Health
49. Abhay Nutrition Pvt.Ltd.
50. Aditya Birla Group
51. BPCL

MoU with BPCL (BPCL Signatory - Mr. Sanjay Bhargava, Head, BPCL R&D)

52. Central Institute of Plastic Engg. and Tech. (CIPET)
53. Godavari Biorefineries Ltd

54. HPCL

MoU with HPCL (HPCL Signatory - Mr. Anil Pande, Executive Director)

55. Hindustan Unilever Industries Pvt. Ltd.
56. ICAR-Central Institute of Fisheries Education (CIFE)
57. Johnson and Johnson Pvt. Ltd.
58. Jubilant Life Sciences Ltd.
59. Lactose India Pvt.Ltd.
60. Maharashtra Rajya Marathi Vishwakosh Nirmiti Mandal, Mumbai
61. Maladi Drugs and Pharmaceuticals Ltd.
62. Mangalore Refinery and Petrochemicals Ltd. (MRPL)
63. Marico Ltd.
64. Privi Biotechnologies Pvt. Ltd.
65. Synthetic and Art Silk Mills' Research Association (SASMIRA)

MOUs with Foreign Academia

1. AIST, Sendai, Japan
2. British Council Division, India British High Commission
3. Ethiopian Textile Industry Development Institute (TIDI), Ethiopia
4. GEMS France
5. Hokkaido University, Sapporo, Japan
6. IIT-Chicago, USA
7. Indiana University, USA
8. INPT, Toulouse, France
9. International Centre for Genetic Engineering and Biotechnology (ICGEB)
10. Purdue University (since 2000)
11. Queensland University of Technology, Australia
12. RMIT U Australia
13. TUHH, Hamburg, Germany
14. U of Birmingham, UK (since 1999)
15. U of British Columbia, Canada
16. U of Cape Town, South Africa (1996-2002)
17. U of Groningen, The Netherlands (1997-2000)
18. University of Aberty Dundee, Scotland, UK
19. University of Bradford, UK
20. University of Illinois, Urbana-Champaign
21. University of Kansas
22. University of Nottingham
23. University of Saskatchewan U, Canada
24. University of Turin, Italy
25. University of West Hungary, Hungary
26. US Army Medical Research Institute of Infectious Diseases, Maryland, USA
27. Bermaco Consulting LLP
28. Curtin University of Technology, Australia
29. Gencrest LLP
30. Harvard College, USA
31. Hebrew University of Jerusalem

Tel Aviv University, Technion and Hebrew University

32. InNow LLC, USA
33. Malysian Palm

Signing MOU with Malysian Palm Oil Board, 1st April 2017

34. Michigan State University
35. Queens University of Belfast
36. Tel Aviv University
37. Tokyo University for Electro-communications
38. University of Aix Marseille
39. University of Manchester

Dual Degree Ph.D. programme MOU with Michigan State University January 16, 2017

Affordability of Education and Financial Assistance

If you still haven't been convinced about joining this elite institute, not knowing what future it unfolds or you did not hear about us in today's publicity-hungry institutes which proclaim greatness, our proponents are our alumni and their employers who quietly promote our reputation. It has been more through the 'word-of-mouth' that our uniqueness is spread in student community. You might surely be wondering about extraneous factors such as cost of education and living facilities, among others. After all, how can such a world-class education be affordable? Some of you might be wondering about job opportunities once you have completed your education. Some might hold aspirations of joining prestigious institutions abroad to further their education. Many of you might even be considering joining the ICT as post-graduate students. Those of you who are not residents of Mumbai might feel intimidated by the prospects of living in this megacity. Then there might be some who are wondering about the affordability of educational resources such as textbooks, technical publications, handbooks and other materials. What about the campus culture?

With regards to affordability of education, the Institute offers the best value for education in the nation. It is the cheaper than nearly all other engineering colleges in Mumbai and this is a remarkable fact given the high quality of the education that we offer. The fees are decided by the State Government and are the lowest for the quality of education and facilities provided by us. There are now 277 scholarships for UG students, ranging from Rs. 3000/- to 75000/- per student.A few scholarships take care of all fees, lodging and boarding. A large reason for this is the generosity of the Institute's huge and accomplished alumni body that includes some of India's leading industrialists, entrepreneurs and businessmen. Their donations have helped create several **merit- and need-based scholarships** that have helped fulfill the dreams of many students. A few alumni are mentoring some students, not only with monitory support but also continuous monitoring. This number is ever growing. It is my personal desire that every student joining the institute should get some assistance. **No other institution in the nation matches the Institute of Chemical Technology in offering scholarships.** It has been our endeavour to provide assistance to all needy students. Once you become our student, we will help you. **The Ministry of Finance (Department of Revenue, Central Board of Direct Taxes) has granted the ICTa privilege by which 100% income tax benefits to donors for all donations under 80G. Also under notification issued on 16th April, 2015, under section 35 of Income Tax Act 1961 (clause ii, sub-section (1) with rules 5C and 5E of the IT rules, 1962) for donations for scientific research are eligible for tax benefit which is 175%.The companies can also contribute to the ICT for many of its welfare and societal programmes under the Corporate Social Responsibility (CSR) requirement.**

Splendour and Serenity of Campus

The campus is **located in one of the best, quietest, and beautiful neighbourhoods of Mumbai** and is in the vicinity of some other prestigious Mumbai schools and institutions. Living in Mumbai is an unforgettable experience and the very fact that it is considered one of the most vibrant cities in the world is testament to this. No city this large is as safe and hospitable. The **hostels of the Institute are among the best equipped in the nation** and students have access to **computing, internet, television and laundry facilities.** The Institute has hostels for boys, girls as well as post-graduate students. In addition, we believe that a healthy body is essential for a fertile mind and our campus also **boasts of several athletics facilities.** A few courses/workshops are conducted for the benefit of the students like yoga, stress management, time management, interpersonal skills, communication skills, presentation skills and interview skills. The Bombay Technologist is an annual technical journal of the Technological Association, started in 1951. The journal publishes technical articles written by the students and the faculty of the Institute. The Institute publishes in-house student magazine, 'The Spirit', in which students contribute on non-technical topics. Dr. B.P. Godrej Students' Centre provides facilities for indoor games. The necessary sports materials as well as music instruments for cultural activities are provided.

The vibrancy of Mumbai rubs onto our students and the **cultural events on campus that are organized and coordinated entirely by our students have become local attractions.** Our faculty members strongly encourage our students to **think creatively** and one of the requirements for creative thinking is the ability **to express oneself creatively,** be it in the classroom, on the playfield or on the stage.

Is the Future as Bright?

Reaching the zenith is one part of story but remaining there without being complacent is the most difficult part and challenging. Unless we innovate in all aspects of academic, research, administrative and industrial activities, we will not be able to make a dent in future. Technology is a capital and ICT has been fully geared to develop new technology in its sphere of activities to sustain the growth and glitter. You could be part of this process.

I would like to give a glimpse of some the plans which we have made. Thus frontiers of research where we have now focused are:

- Biotechnology & biomedicine
- Nanotechnology and materials science
- Energy science and engineering
- Process systems engineering
- Green chemistry and engineering
- Environmental protection and Hazardous waste management
- Product Engineering
- Under the aegis of these areas, our research will focus on:
- Developing greener chemical processing platforms producing a much wider range of products; green technology; product engineering.
- Developing technologies for generating, storing and transporting unlimited and inexpensive energy sources; energy engineering
- Developing therapy strategies for incurable diseases; pharma and healthcare.

- Designing better materials whose properties can be predicted, tailored and tuned; materials engineering; nanotechnology
- The Maharashtra Cabinet has already taken a decision in October 2016 to allot 200 acres of land to ICT for a satellite campus in Marathwada near Aurangabad-Jalna with adequate funds to bring prosperity to that region. I am sure some of the planned Centres of Excellence in waste management, pharmaceuticals, food processing, materials and energy will lead to overall industrial growth.

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. Great institutes are not built overnight. My experience as an academic, researcher, consultant to industry, member of several important professional bodies and government committees, and my interactions with alumni, government officials, faculty from leading institutes in India and abroad, have revealed 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 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 course. There is too much of peer pressure. The purpose of my writing this long prologue is thus to communicate with you directly and place statistics and standing of ICT before you, since several of your questions and doubts would not be answered by an impersonal compilation in this handbook.

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 my 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 unlucky this time because you fail short of the cut-off criteria, 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. Remember what I have written in some the beautiful posters in the institute.

The Rich. The Poor. The Marginal. The Privileged. The Underprivileged They 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. To be without dreams is to be without hope; to be without hope is to be without purpose.

The very best to you; wherever you go.

Professor G.D. Yadav
April, 2017

NATIONAL AND INTERNATIONAL RANKING OF ICT: INDIAN CHEMICAL ENGINEERING SCHOOLS DURING 2007-2011

(Surveys of World Chemical Engineering Schools: Professor Jude Sommerfeld, Georgia Institute of Technology, USA, 10 April10)

WORLD RANKING OF CHEMICAL ENGINEERING SCHOOLS (2007-11) (Prof. Jude Sommerfeld, USA, 22nd Jan. 2012)

INDIA								
SCHOOL	**LOCATION(S)**	**PUBS.**	**TOTALS**	**RANK**	**PUBS.**	**TOTALS**	**RANK**	**World Ranking**
		2010	**06-10**	**06-10**	**2011**	**07-11**	**07-11**	
Mumbai (ICT)	Bombay, Mumbai	185	960	1	198	1025	1	4
Bombay (IIT)	Bombay, Mumbai	72	368	2	75	393	2	
Kanpur (IIT)	Kanpur	72	356	3	80	378	3	
Kharagpur (IIT)	Kharagpur	68	301	4	59	305	4	
Madras (IIT)	Madras, Chennai	60	263	5	55	281	5	
Anna	Madras, Chennai	39	257	6	56	261	6	
Bangalore (IIS)	Bangalore	42	204	7	51	225	7	
Roorkee (IIT)	Roorkee	30	188	8	31	205	8	
Delhi (IIT)	Delhi, New Delhi	43	169	9	43	188	9	
Guwahati (IIT)	Gauhati	34	100	12	46	138	10	
USA								
Mass. Inst. Tech.	269	1470	1	341	1624	1	1	
Minnesota	202	1014	2	211	1067	2	2	
Georgia Tech	197	942	4	234	1061	3	3	
Texas	175	985	3	171	986	4	6	
Cal/Berkeley	146	812	5	177	899	5	8	
Cal/Davis	160	808	6	165	874	6	9	
Delaware	123	647	10	191	784	7	10	
CANADA								
Alberta	193	861	1	222	980	1	7	
UK								
Imperial College London	178	875	1	222	1009	1	5	

NB: Most of the Chemical Engineering programmes worlds wide are interdisciplinary and versatile which include biochemical engineering, materials science, polymer engineering, petroleum engineering, etc. A majority of chemical engineering faculty have published in interdisciplinary area apart from traditional areas such as nanotechnology, drug delivery, nanobiotechnology, nanomaterials, energy engineering, and the like.

2. INSTITUTE AUTHORITIES AND PROFILES OF DEPARTMENTS

2.1 INSTITUTE AUTHORITIES

Professor G. D. Yadav
Vice-Chancellor
R. T. ModyDistinguished Professor
J. C. Bose National Fellow (DST-GOI)
President, Technological Association
T: 91-22-3361 1001; F: 91-22-3361-1002/1020
vc@ictmumbai.edu.in
gd.yadav@ictmumbai.edu.in

Professor S. S. Lele
Registrar
T: 91-22-3361-1016; F: 91-22-33611002/1020
registrar@ictmumbai.edu.in
ss.lele@ictmumbai.edu.in

Professor P. R. Vavia
Dean, Academic Programmes,
T: 91-22-3361 1026/2220, F: 91-22-3361-1002/1020
Dean.ap@ictmumbai.edu.in
pr.vavia@ictmumbai.edu.in

Professor A. B. Pandit
Dean, Human Resource Development
T: 91-22-3361 1030/2012
ab.pandit@ictmumbai.edu.in

Professor R. S. Singhal
Dean, Research, Consultancy and Resource Mobilisation
T: 91-22-3361 1028/2512
rs.singhal@ictmumbai.edu.in

Professor B. M. Bhanage
Dean, Infrastructure and Campus Development
T: 91-22-3361 1030/2603
dean.icd@ictmumbai.edu.in
bm.bhanage@ictmumbai.edu.in

Dr. R. R. Deshmukh
Controller of Examinations
T: 91-22-3361 1027/2658
rr.deshmukh@ictmumbai.edu.in

2.2 HEADS OF DEPARTMENTS & COORDINATORS OF CENTRES

Professor B. N. Thorat
Head, Department of Chemical Engineering
Coordinator, UGC-NRC-CE
T: 91-22-3361 2001/2022
bn.thorat@ictmumbai.edu.in

Professor R. N. Jagtap
Head, Department of Polymer and
Surface Coating Technology
T: 91-22-3361 2401/2415
rn.jagtap@ictmumbai.edu.in

Professor G. S. Shankarling
Head, Department of Dyestuff Technology
Coordinator, Perfumery and Flavour Technology
T: 91-22-3361 2701/2708
gs.shankarling@ictmumbai.edu.in

Professor R. V. Adivarekar
Head, Department of Fibres and
Textile Processing Technology
T: 91-22-3361 2801
rv.adivarekar@ictmumbai.edu.in

Professor U. S. Annapure
Head, Department of
Food Engineering and Technology
T: 91-22-3361 2501/2507
us.annapure@ictmumbai.edu.in

Dr. Mohan Narayan
Head, Department of Physics
T: 91-22-3361 2651/2662
m.narayan@ictmumbai.edu.in

Professor M. S. Degani
Head, Department of Pharmaceutical Sciences & Technology
T: 91-22-3361 2201/2213
ms.degani@ictmumbai.edu.in

Professor R. D. Kulkarni
Head, Department of
Oils, Oleochemicals & Surfactant Technology,
T: 91-22-3361 2551
rd.kulkarni@ictmumbai.edu.in

Professor R. V. Jayaram
Head, Department of Chemistry
Coordinator, Green Technology
T: 91-22-3361 2601/2607
rv.jayaram@ictmumbai.edu.in

Professor A. M. Lali
Head, DBT-ICT Centre for Energy Biosciences
Tel.: 91-22-3361 2301
am.lali@ictmumbai.edu.in

Professor V. R. Gaval
Head, Department of General Engineering
T: 91-22-3361 2751/2756
vr.gaval@ictmumbai.edu.in

Professor P. V. Devarajan
Coordinator, Technical Education
Quality Improvement Programme,
Coordinator, UGC Centre for
Advanced Studies in
Pharmaceutical Sciences and Technology
Tel.: 91-22-3361 2210/1029
pv.devarajan@ictmumbai.edu.in

Professor S. S. Bhagwat
Coordinator CTM,
Coordinator, Center of excellence in process intensification
Tel.: 91-22-3361 2011
ss.bhagwat@ictmumbai.edu.in

Professor A. K. Sahu
Head, Department of Mathematics
Tel.: 91-22-3361 2676
ak.sahu@ictmumbai.edu.in

Professor A. B. Pandit
Co-ordinator, ICT-DAE Centre for Chemical Engineering Education and Research
Tel.: 91-22-3361 2012 / 1030
ab.pandit@ictmumbai.edu.in

Professor N. Sekar
Coordinator, UGC CAS in Physico-Chemical Aspects of Textiles, Fibres, Dyes and Polymers
Tel.: 91-22-3361 2707
n.sekar@ictmumbai.edu.in

Professor B. M. Bhanage
Coordinator, UGC DRS
Tel.: 91-22-3361 2603
bm.bhanage@ictmumbai.edu.in

Mrs. Madhavi Wadkar
Senior Librarian
Professor M. M. Sharma Library
Tel: 91-22-3361 1126
library@ictmumbai.edu.in
mm.wadkar@ictmumbai.edu.in

Dr. Laxmi Ananthanarayan
Coordinator, M.Tech. Programme in Food Biotechnology
Tel.: 91-22-3361 2506
l.ananthanarayan@ictmumbai.edu.in

Dr. Sandeep B. Kale
Coordinator, M.Tech. Course in Bioprocess Technology
Tel.: 91-22-3361 2313
Deputy Co-ordinator, DBT-ICT-centre fro energy Biosciences
sb.kale@ictmumbai.edu.in

2.3 ADMISSION COMMITTEE

UG Admission

Prof. P. R. Vavia
Dean (AP)

Prof. U. S. Annapure
Co-Chair

Prof. S. S. Lele
Registrar

Dr. Amit Pratap

Dr. C. S. Mathpati

Prof. S. S. Sathaye

Mr. N. S. Lakhan
I/C A.R. (Acad)

Shri. Kerawala M. A. K.

Dr. Vijay Kumar

PG Admission

Prof. P. R. Vavia
Dean (AP)

Dr. Sandeep Kale
Co-Chair

Prof. S. S. Lele
Registrar

Dr. V. N. Telvekar

Dr. R. D. Kale

Prof. A. W. Patwardhan

Prof. J. M. Nagarkar

Dr. R. S. N. Sahai

Mr. N. S. Lakhan
I/C A.R. (Acad)

2.4 IMPORTANT FUNCTIONARIES AND SUPPORT STAFF

Shri. N. S. Lakhan
I/C A. R. (Academic)
Admissions, Examinations, Registration, Thesis Matters, Fellowship Claims, Transcripts,
T: 91-22-3361 1202
ns.lakhan@staff.ictmumbai.edu.in

Shri. S. V. Pawar
Jr. Clerk (Acad.), Thesis Submission and Examination
T: 91-22-3361 1204
sv.pawar@staff.ictmumbai.edu.in

Shri. S. B. Kadam
A. R. (Finance & Accounts)
T: 91-22-3361 1256
ar.fin@staff.ictmumbai.edu.in

Shri Vijay Anant Mulam
Sr. Clerk (inaddition of Head Clerk, Exam Section)
Tel.: 91-22-33611203
ba.mulam@staff.ictmumbai.edu.in

Smt. Asha V. Bhangare
Sr. Clerk, (Acad.) Scholarships, Freeships, Bonafide Certificate, Attestion, Rank Certificate
T: 91-22-3361 1208
av.bhangare@staff.ictmumbai.edu.in

Smt. Lalita Chauhan
Receptionist
General and all Admission related Inquiries, I-Cards
T: 91-22-3361 1160
inquiry@staff.ictmumbai.edu.in

Shri Deepak Jadiye
Officer on Special Duty
Tel : 91-22-3361 1017
*d.jadiye@ictmumbai.edu.*in

Shri. V. N. Patil
Hostel Supervisor
Tel.: 91-22-3361 1452
vn.patil@ictmumbai.edu.in

Shri. A. B. Rane
Jr. Clerk (Acad.)
Admission, Eligibility, Enrolment, Fellowships
ab.rane@ictmumbai.edu.in

2.5 ADMINISTRATIVE STAFF OF VICE CHANCELLOR OFFICE

Ms. S. A. Bhavsar
P.A. to Vice Chancellor
T: 91-22-3361 1001 email: *vc@ictmumbai.edu.in*

Smt. Anushka A. Bhandare
Jr. Typist Clerk,
(Scholarships, Fellowships, Endowments)
T: 91-22-3361 1001 email: *vc@ictmumbai.edu.in*

Wardens at ICT Hostels

Hostel 1
Dr. P. D. Vaidya
T: 91-22-3361 2014
pd.vaidya@ictmumbai.edu.in

Hostel 2
Mrs. Madhavi Wadkar
Tel.: 91-22-3361 1126
Email: mm.wadkar@ictmumbai.edu.in

Hostel 3
Dr. Jyoti Sontakke-Gokhale
Tel.: ?????
jyotisontakke@gmail.com

Hostel 4
Dr. S. T. Mhaske
T: 91-22-3361 2412
st.mhaske@ictmumbai.edu.in

Hostel 5 (Head Warden)
Professor V. K. Rathod
T: 91-22-3361 2020
vk.rathod@ictmumbai.edu.in

FACULTY OF INSTITUTE AND DISTINGUISHED VISITING FACULTY

VICE CHANCELLOR

Professor G. D. YADAV

B. Chem. Eng.(Mumbai, 1974).
Ph.D. (Tech.) (1980), F.T.W.A.S., F.N.A., F.N.A.Sc.,
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)
R. T. Mody Distinguished Professor
Jagdish Chandra Bose National Fellow (DST-GOI)
Adjunct Professor, RMIT University, Australia,
University of Saskatchewan, Canada

Subjects Taught : Fundamentals of Green Chemistry and Technology, Nanotechnology in Green Chemistry

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)

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

Guided students: Ph.D. 90; M. Tech.: 96
Post Doc 28

Total Research Publications - National: 0, **International:** 350
Cumulative Impact Factor: 42.236; Impact Factor per publication: 4.693; H-Index: 49; Citations: 8382

Patents (granted in last 5 years): 83

National and International Awards: Fellow of Several National and International Organizations, Awarded PADMASHREE by the Government of India on 28th March 2016.

DISTINGUISHED PROFESSOR OF EMINENCE

PROF. MANMOHAN SHARMA

Professor 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.), FREng, FRS, FNA, FASc, FNASc, FTWAS, C Chem, FRIC (U.K.), C. Eng., FIChE (U.K.), FIIChE, FICS, FBRS

Email: profmmsharma@gmail.com

Man Mohan Sharma FREng (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), theVishwakarma medal of the Indian National Science Academy (1985), G.M. Modi Award (1991), Meghnad Saha Medal (1994), and an honorary Doctor of Science degree fromIndian 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 University). He remained Director, UICT for 33 years. He has been honored by several universities including IITs by honorary doctorates.

Academic career

Sharma made contributions to chemical engineering science and technology. His studies on Bronsted based catalysis in CO2 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 CO2 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).

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 ofEngineering and is Foreign Associate of the US National Academy of Engineering.

DEPARTMENT OF CHEMICAL ENGINEERING

HEAD: PROF. B. N. THORAT

Prof. B. N. Thorat

B.Chem.Eng. (Mumbai, 1987), M.Chem.Eng. (1989), D.H.S.T. (BITS, 1991), Ph.D. (Tech.) (Mumbai, 2001)

Professor of Chemical Engineering

Subjects Taught: Advanced Transport Phenomena, Chemical Reaction Engineering, Instrumentation and Process Control, Unit Operations etc.

Research Interests : Drying Technology and Particle Handling, Process Development, Multiphase Reactors, Industrial Crystallization and Filtration, Food Processing etc.

Recognized Research guide for

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

Guided students: Ph.D. 21

Masters: 60;

Total Research Publications-

National: 03, **International:** 61

Patents: 4

H-Index: 14, **Citations:** 643

National and International Awards: Vasvik Award, NOCIL Award, Gunther Oertel Start up Innovation Award from Covestro.

Prof. S. S. Bhagwat

B. Chem. Eng. (Mumbai, 1984), M.Chem.Eng. (Mumbai, 1986), Ph.D. (Tech.) (Mumbai, 1989)

Co-ordinator - PGDCTM, CoE-PI.

Subjects Taught : Chemical Engineering Thermodynamics I, Chemical Engineering Thermodynamics II, Interfacial Science and Engineering.

Research Interests : Interfacial Science and Engineering, Microemulsions, Energy and Exergy Engineering, Absorption Cycles, Utilization of lowgrade 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: Ph.D. 31

Masters: 68;

Total Research Publications-

National: 03, **International:** 63

Patents: 08

H-Index: 12, **Citations:** 510

National and International Awards:

Indian National Science Academy has conferred the 'INSA' Best Teacher Award.

Prof. V. G. Gaikar, F.N.A.E.

B.Chem.Eng (Mumbai, 1982), M.Chem.Eng. (Mumbai, 1984), Ph.D. (Tech.) (Mumbai, 1986)

Bharat Petroleum Professor of Chemical Engineering Co-ordinator, ICT-DAE Centre for Chemical Engg. Education & Research Co-ordinator - Technical Education Quality Improvement Programme Currently on Deputation to BATU as Vice-Chancellor

Subjects Taught: Process Engineering, Advanced Separation Processes

Research Interests : Renewable Energy Resources, Reactive Separation Processes, Molecular

Simulation for Reactive Sorption and Metal Ion Complexation, Interfacial Science and Engineering and Hydrotropy, Complex Fluid Behaviour, Synthesis of nanoparticles and development of applications.

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

Guided students: Ph.D. 35

Masters: 75

Total Research Publications-

National: 04, **International:** 164

Patents: 11

H-Index: 28, **Citations:** 2557

National and International Awards:

First Vice Chancellor Dr. Babasaheb Ambedkar Technological University.

Dr. V. H. Dalvi

B.Chem. Eng. (Mumbai, 2002), M.S., P.D.ENG. (Enschede, The Netherlands, 2005), Ph.D. (Austin, USA, 2009)

R.A. Mashelkar Asst. Professor.

Subjects Taught: Industrial Engineering and Chemistry, Simulation Laboratory

Research Interests : Molecular Simulations, Process Simulations, Solar Thermal Systems, Statistical Thermodynamics.

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

Total Research Publications-

National: Nil, **International:** 03

Dr. Parag R. Gogate

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

Associate Professor of Chemical Engineering

Subjects Taught: Separation Processes, Advanced Reaction Engineering, Material Energy Balance 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; Masters in Chemical Engineering, Green Technology, Bioprocess Technology

Guided students: Ph.D. 08

Masters: 32

Total Research Publications-

National: 17, **International:** 230

Citations as per Scopus: 8200 **H-index** : 50

National and International Awards: Anil Kumar Bose Medal of the Indian National Science Academy (INSA), 2011; Young Associate of Indian National Academy of Engineering, 2012; Chartered Engineer and Member, Institution of Chemical Engineers, UK, 2013; The SCEJ Award for Outstanding Asian Researcher and Engineer given by The Society of Chemical Engineers, Japan, 2013; Hindustan Lever Biennial Award for the Most Outstanding Chemical Engineer of the Year Under The Age Of 45 Years of Indian Institute of Chemical Engineers, 2013; Fellow, Maharashtra Academy of Sciences, 2014; Outstanding Professor Award given by Indian Specialty Chemicals Manufacturing Association, 2015. Maharashtra State National Award for Best Research work done by teachers of engineering colleges, Indian society for technical education, New Delhi - 2016

Prof. Pushpito Kumar Ghosh

Ph.D. (Chemistry), Princeton University, U.S.A.

K. V. Mariwala-J. B. Joshi Distinguished Professor of Chemical Engineering, ICT Mumbai; Emeritus Professor, CSMCRI-AcSIR; Former Director (1999-2014), CSIR-Central Salt & Marine Chemicals Research Institute, Bhavnagar

Subjects Taught: Innovations in Chemical Technology, Industrial & Engineering Chemistry (Inorganic Chemicals), Renewable Energy Sources Safety

Research Interests: Salt & Marine Chemicals; Membrane-based processes; Green Chemistry; Renewable Energy; Chemical Technology

Recognized Research Guide for: ICT (Chem. Engg. and Green Technology); AcSIR, New Delhi

Guided students: Ph.D. 8,

Total Research Publications-

National: 10, **International:** 88

Citation Index: 3990; **H-Index:** 32

Patents: 15

Professor A. M. Lali

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

Professor (Chemical Engineering), Head, DBT-ICT-Centre for Energy Biosciences

Subjects Taught: Bioprocess Simulation Modeling & Bioreactor Design, Instrumentation & Process Control, Adsorptive Separations Statistical Methods.

Research Interests : Bioenergy, Biofuels and biomass to other chemicals, Purification of Proteins, nucleic acids & other Biomolecules, natural & synthetic APIs high value organic/ inorganic chemicals, Continuous chromatography, Modeling & Adsorptive separations, Biocatalysis & Bio transformations, Bioreactor design, Mixing & dynamics of solid liquid fluidized bed, Dynamics of gas-solid circulating fluidized bed, Process integration & intensification, Process development, characterization & scale up.

Recognized Research guide for Ph.D.(Tech.) in Chem. Engg., Bioprocess Technology, Ph.D.(Sci.) in Chemistry, Biotechnology.

Guided students: Ph.D. Guided 37

Masters: Guided: 75

Total Research Publications- International: 61

Patents (granted in last 5 years):

National: 35, **International:** 56

Prof. Lakshmi Kantam Mannepalli

B.Sc., M.Sc., Ph.D. (Chemistry)

FNA, FNASc, FRSC

Subjects Taught: Nanotechnology, Green chemistry

Research Interests: Catalysis, Materials & Process Chemistry, Nanotechnology.

Recognized Research Guide for: Chemistry and Chemical Engineering

Guided students: Ph.D. : 40,

Total Research Publications-

National: 22, **International:** 329

Citations (last 5 yrs): 11000; **H-Index:** 50

Patents (granted in last 5 years): (3 patents filed)

National and International Awards (last 5 years): 2015- Dr. Burjor P. Godrej Distinguished Professor of Green Chemistry and Sustainalibity Engineering; 2015- J.C.Bose Fellow (April 2015); 2015- Eminent Scientist Award – Catalysis Society

of India; 2014-Fellow of the Indian National Science Academy; 2013 – Fellow of The Royal Society of Chemistry, UK; 2011- Vasvik Award; 2011 - Lifetime Achievement Award, Indian Chemical Society, 2011; 2010 - Platinum Jubilee Lecture Award, ISC-2010. Prof. Darshan Ranganathan Memorial Lecture Award 2016.

Mrs. K. V. Marathe

B E and M Tech in Metallurgical Engg

Associate Professor in Metallurgical Engg.

Subjects Taught: Material technology, Advanced Materials, Ind. Engg. Chem.

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: Ph.D. 02, **Masters:** 30

Total Research Publications-

National: 06, **International:** 24

H Index: 7, **Total Citations:** 182,

Impact factor (Scopus): 39.644

Dr. C. S. Mathpati

B. Chem. Eng.(Mumbai, 2004), M. Chem. Eng. (Mumbai, 2006), Ph.D. (Tech.) (Mumbai, 2010)

Assistant Professor of Chemical Engineering

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: Ph.D, 02;

Masters: 09

Total Research Publications- International: 22

Dr. Parag R. Nemade

B. Chem. Eng. (UDCT, Mumbai), M. S. & Ph.D. (University of Colorado)

UGC Assistant Professor for Chemical Engineering and Oil, Oleochemical and Surfactants Technology

Subjects Taught: Advanced Membrane Separations, Nanotechnology, Advanced Momentum Transfer, CE Lab

Research Interests: My group works on membrane separation processes, on development of new polymeric and graphene based materials for membranes, catalysts, and sensors applications. We also work on sustainability engineering, in areas such as sustainable sanitation, development of new applications for industrial wastes, etc.

Recognized Research Guide for

Guided students: Ph.D. 0

Masters: 8

Total Research Publications- International: 9

Cumulative Impact Factor: 42.236;

Impact Factor per publication: 4.693;

H-Index: 4; **Citations:** 234

Patents (granted in last 5 years): 0

(Applied for: 3)

National and International Awards: 3

Prof. Aniruddha B. Pandit

Ph.D.(Tech.) Department of Chemical Technology, University of Bombay (Mumbai) (1980-1984), B. Tech. (Chem.) Institute of Technology, Banaras Hindu University (1975-1980)

(FTWAS, FNA, FNAE, FNASc, FIASc, FMASc)

Professor, UGC Research Scientist, "C" (Professor's Grade)

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

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

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.

Recognized Research Guide for

Guided students: Ph.D.36, **Masters:** 64

Total Research Publications-

National/International:Total Publications: 338, Citations: 10978, **H-Index:** 56

Patents (granted in last 5 years): 1

National and International Awards (last 5 years):Indian National Academy of Science (INSA), Best Teacher Award, 2012; Sir J. C. Bose Fellow of the Department of Science and Technology, Government of India, 2015; Vishwakarma Medal, Indian National Academy of Science (INSA), 2015; Fellow The World Academy of Sciences (TWAS), 2015

Prof. Anand Vinayak Patwardhan

Ph.D. (Tech.) Chemical Engineering, ICT Mumbai, 1988

Professor of Chemical Engineering

Subjects Taught: Transport Phenomena, Chemical Reaction Engineering, Chemical Engineering Operations, Advanced Momentum Transfer, Green Technology, Advanced Membrane Separations

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

Guided students: Ph.D.: 10

Masters: 40

Total Research Publications-

National: 52, **International:** 56

H-Index: 17; **Citations:** 1096

Prof. Ashwin W. Patwardhan

Ph. D. (Tech.) in Chemical Engineering

Professor of Chemical Engineering

Subjects Taught: Momentum and Mass Transfer, Thermodynamics of Phase Equilibria, Material and Energy Balance Calculations, Process Modeling and Simulation

Research Interests: Computational Fluid Dynamics, Transport Phenomena, Membrane Separation Processes, Liquid Extraction

Recognized Research Guide for Ph. D. (Tech.) as well as Ph. D. (Sci.)

Guided students: Ph.D.13 **Masters:** 44

Total Research Publications- International: 90

Total Citations = 1500; **H-Index** = 21

National and International 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.

Prof. V. K. Rathod

B. Tech. (Nagpur, 1999), M. Tech. (Nagpur, 2001), Ph.D. (Tech.) (Mumbai, 2006)

Professor of Chemical Engineering

Subjects Taught: Heat Transfer, Advance heat transfer, separation processes, Fluid flow and Heat transfer, Multiphase Reactor, Material & Energy Balance calculation, pharmaceutical Engineering, Chemical Engineering Laboratory

Research Interests : Separation process, Extraction of Natural ingredients, Enzyme catalyzed reactions, Waste Treatment, Nuclear reprocessing, Separation of biomolecules, Enzyme Preparation and separation

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

Guided students: Ph.D. 13

Masters: 64;

Total Research Publications- International: 110

National and International Awards: Fellow, Maharashtra Academy of Sciences 2015

Dr. Prakash D. Vaidya

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

Rashtriya Chemicals and Fertilizers Associate Professor of Chemical Engineering

Subjects Taught: Chemical Reaction Engineering, Industrial & Engineering Chemistry, Design and Analysis of Experiments, Fuels Engineering, Instrumentation and Process Control

Research Interests: Bio-energy, carbon capture and recycling, wastewater treatment

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

Guided students: Ph.D. 09 , Masters: 34

Total Research Publications - International: 54, **H-Index:** 20, **Citations:** 1608

Patents (granted in last 5 years): 01

National and International Awards (last 5 years): University of Liverpool (UK) India Fellowship Award (2015)

Bioenergy - Award for Cutting Edge Research (B-ACER) Fellowship (2017)

Dr. S. M. Sontakke

B. Tech. (Petrochemical, Dr. B.A.T.U, 2007), Ph. D. (Chem. Engg., IISc, Bangalore, 2012)

DST INSPIRE Faculty

Subjects Taught: Chemical Engineering Laboratory, Environmental Eng. And Process Safety, Design and analysis of experiments, Chemical Engineering operations, Transport Phenomena

Research Interests : Catalysis, Water Treatment, Fuel Cell, Polymeric Scaffolds and Tissue engineering, Solar Cell

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

Guided students: Ph.D. **Masters:** 04

Total Research Publications- International: 06

Dr. Ratnesh Jain (AvHumboldt Fellow)

M.Pharm, Ph.D.(Tech) Pharmaceutics

UGC Assistant Professor and Ramalingaswami Fellow

Subjects Taught: Biological Sciences and Bioengineering, Biomaterials, Fermentation and Cell Culture Engineering, Research Methodology

Research Interests: Continuous process for polymeric/metal nanoparticles synthesis; Synthesis and evaluation of biomaterials (Biodegradable polymers, proteins and nucleic acids) for drug delivery, cosmetic, biomedical and industrial applications; Material-Protein Interactions, Characterization of proteins, biologics and biosimilars, Cell Culture engineering.

Recognized Research Guide for Ph.D. (Tech.) in Pharmaceutics, Green Technology

M.Tech in Bioprocess Technology, Green Technology; M Chem Engg in Chemical Engineering

Guided students: Ph.D. 0

Masters: 8 (Guided)

Total Research Publications-

National:2, **International:** 24

Citations: 335, **H-Index:** 10, **Cumulative impact factor:** 72

Patents (granted in last 5 years) None, Filed: 03

National and International Awards (last 5 years): DAE Young Scientist Award 2012; Young Associateship from Maharashtra Academy of Sciences for the contribution and Engineering and Technology, 2012; Ramalingaswami Fellowship, Departemnt of Biotechnology, Govt. of India, March, 2012

Dr. Dipak Vitthal Pinjari

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

DST INSPIRE Faculty (Assistant Professor Grade)

Subjects Taught: Introduction to Polymer Engineering, Advanced Materials, Advanced Topics in Polymer Chemistry/Analysis, Chemical Engineering Laboratory, Pharamaceutical Engineering

Research Interests: Sustainable and Environmental Engineering, Process Intensification, Cavitation Engineering and Technology, Synthesis of Nanomaterials, Polymers, Sonochemistry, and Paints Technology

Recognized Research Guide for Ph.D (Tech) in Chemical Engineering,

Guided students: Ph.D. 0

Masters: 7 (completed),

Total Research Publications-

National: 3, **International:** 55
(Cumulative impact factor: 157, **H-Index:** 18, and Citations - 1001)
Patents (granted in last 5 years): 5
National and International Awards (last 5 years): 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, Banglore (India); Young Associate, Maharashtra Academy of Science (2013); Awarded M. P. Chary Memorial Award 2013 for research and technological contribution, INAE Young Engineer Award

DEPARTMENT OF DYESTUFF TECHNOLOGY

HEAD: Prof. GANAPATI S. SHANKARLING

Prof. Ganapati Subray Shankarling
B. Sc. (Hon), B. Sc (Tech), M. Sc (Tech), Ph.D. (Tech).
Prof. and Head, Department of Dyestuff Technology
Coordinator, Perfumes and Flavor Technology.

Subjects Taught: B.Tech Course: Chemistry and technology of benzene intermediates I & 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 fibers, Tinctorial chemistry lab, Experimental dying; **Master of Technology:** Chemistry of functional colorants, Chemistry and technology of agro chemicals, Analysis and development of green industrial processes, Chemistry of perfumes and flavors
Research Interests: Functional colorants: Thermochromic and Photochromics, Dye Sensitized solar cell (DSSC), Non-Linear Optics (NLO), Metal sensors, Chemosensor for anions etc, Studies in Supramolecular Chemistry (macromolecules),Green chemistry: Preparation and application of ionic liquids for organic synthesis, Green chemistry and Technology mainly development of environmentally benign organic synthesis,Process chemistry: Ultrasonic Sonochemistry, process intensification for development of azo dyes, Studies in oxidation reactions.
Recognized Research Guide for Ph.D. (Tech) in Dyestuff Technology, Green Technology, Perfumery and Flavours; Ph.D. (Sci) inChemistry and Biotechnology
Guided students: Ph.D.12, **Masters:** 23

Total Research Publications-
National: 12, **International:** 73
H-Index: 15 (as per Scopus), **Citation :** 837
Patents (granted in last 5 years) : 12

Prof. Prakash M. Bhate

B.Sc. (Tech.), Ph.D.
Professor

Subjects Taught:
Research Interests: Carbohydrate chemistry, Colour chemistry, Heterocyclic chemistry
Recognized Research Guide for Ph.D. (Tech.) and Ph.D. (Science)
Guided students: Ph.D. 2, **Masters:** 3
H-Index: 04, **Citation :** 124
Total Research Publications- International: 11

Prof. N. Sekar

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

Subjects Taught: Color Chemistry – an Introduction; Chemistry of Heterocycles; Chemistry and Technology of Direct, Acid and Sulphur Dyes; Chemistry and Technology of Pigments; Chemistry of Fluorescent Dyes; High Performance Pigments.
Research Interests: Synthesis of Fused Heterocyclic compounds, Process development of intermediates, Fluorescent compounds for bio- sensors, medical diagnostics and security sensing, Laser Dyes, NIR absorbing, Tinctorially strong disperse dyes, Extended Styryl dyes, Metal complex dyes for photovoltaics, Greener Methods for fluorescent compounds, Synthesis and formulation of perfumes and flavors, Computational Chemistry.
Recognized Research Guide for
Guided students: Ph.D. 16, **Masters:** 22
Total Research Publications- International: 374
Cumulative impact factor: 155, **H-Index:** 16, **Citations:** 1099
Patents (granted in last 5 years): 5
National and International Awards (last 5 years): Fellow of Society of Dyers and Colourists, (UK); Fellow of Association of Chemical Technologists, India; Fellow of Indian Chemical Society; Fellow of Society for the Advancement of Electrochemical Science and Technology; Fellow of Indian Membrane Society; Fellow of Indian Mathematical Society; Fellow of Maharashtra Academy of Sciences

Dr. Surajit Some

Ph.D (IIT-Kharagpur)
UGC-Assistant Professor

Subjects Taught: 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-1, Experimental Dyeing, Analysis of inorganic Raw Materials, Preparation of Intermediates, Preparation of Dyes
Research Interests: Synthesis of graphene derivatives and their applications: Semiconductor materials, Energy storage materials, Flame retardant, Bio-probes, Sensors, Anticancer materials, Surfactants, Advanced catalysts.
Recognized Research Guide for
Guided students: Ph.D. 0

Total Research Publications- International: 27
H-Index :17, **Citations:** 832
Patents (granted in last 5 years): 4
National and International Awards (last 5 years): SERB Young Scientist Award 2016; Research Fellow Award 2013 from National Research Foundation (NRF), South Korea; Dr. D. S. Kothari Fellowship Award 2008.

Dr. Satyajit Saha

Ph.D. (Chemistry)
UGC-Assistant Professor

Subjects Taught: (a) Color Chemistry; (b) Chemistry of Agrochemicals; (c) Chemistry and technology of acid, direct and sulphur dyes; (d) Preparation of dyes and intermediates; (e) Analysis of intermediates, dyes and fibres; (f) Chemistry and Technology of Pigments; (g) Preparation, analysis of dyes, intermediates, optical brighteners and functional colorants; (h) Chemistry and Technology of Benzene Intermediates-II; (i) Unit Process and TLC Techniques.
Research Interests: Asymmetric Organocatalysis- Employing chiral organocatalysts for efficient synthetic strategies of useful chiral synthons by exploiting supramolecular interactions. Other domains are transition metal catalyzed diversity oriented synthesis of annelated N-heterocycles of biological importance and synthesis of novel functional materials and their applications as Dye Sensitized Solar Cells, Organic Light Emitting Diodes, etc,
Recognized Research Guide for: Science (Chemistry)
Guided students: Ph.D. 0
Total Research Publications- International: 11
H-Index: 10; **Citations data:** 330
National and International Awards (last 5 years): FWO Visiting Postdoctoral Fellowship from Belgium, 2011

Dr. Nabanita Sadhukhan

Ph.D.
UGC-Assistant Professor

Subjects Taught: Chemistry of Intermediates, Chemistry of Functional Dyes
Research Interests: Inorganic Chemistry, Biologically important small molecules, Monodisperse polymer, Light responsive functional molecule.
Recognized Research Guide for: Ph.D. (Science) (Chemistry)
Guided students:
Total Research Publications- International: 17
H-Index: 08; **Citations :** 230
National and International Awards (last 5 years):

DEPARTMENT OF FIBERS TEXTILE PROCESSING TECHNOLOGY

HEAD: PROF. (Dr.) RAVINDRA V. ADIVAREKAR

Prof. (Dr.) Ravindra V. Adivarekar

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

Professor in Fibre Chemistry and Head, Dept. of Fibres and Textile Processing Technology

Subjects Taught: Technology of Printing, Technology of Textile Colouration, Biotechnology in Textiles, Pretreatment of Textiles.

Research interests: Textile colouration, Green Processing of Textiles, Medical Textiles, Enzyme manufacturing and application, Natural dyes for textiles and cosmetics, Textile composites, Novel Processing Techniques.

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. : 6, **Masters :** 35

Total Research Publications: 148

National: 100 **International:** 48

H-Index : 05 **Citations :** 87

Patents: 02

Prof. M. D. Teli

B. Sc (Hons.), B.Sc. (Tech.), Ph. D. (Tech.), FTA (Hons.), F.M.A. Sci.

Professor of Textile Chemistry, Member of Board of Management, ICT, Former Ex-Dean, SA & HRD, ICT & Former Head Department of Fibres and Textile Processing Technology

Subjects Taught: Technology of Fibres I and II, Advanced Textile Chemistry, Advanced Textile technology, Modification of Fibrous Polymers and Emerging Trends in Textile Processing technology, Seminars and Project work

Research Interests: Chemical Processing of all Natural and Synthetic Fibres. Natural and Synthetic Thickeners, Polymer Blend Fibres, Electro Kinetic Properties of Textile Fibres, Natural Dyes, Speciality Finishing Effects, Application of Nanotechnology and Biotechnology in Textiles, Technical Textiles, etc.

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

Guided students: Ph.D. – 21; **Masters:** 96;

Total Research Publications:

National: 155, **International:** 161

H-Index : 13, **Citations :** 561

Patents : 3

National and International Awards:

Fellow of Maharashtra Academy of Sciences

Prof. (Dr.) S. R. Shukla

B.Sc. (Hon.), B.Sc. (Tech.), Ph. D. (Tech.), F.M.A.S.

Professor of Technology of Dyeing and Printing

Subjects Taught: Environmental Problems of Textile Processing: M. Tech.- Sem II,Dyeing of Natural fibres- M. Sc.- Sem II; Dyeing of Manmade Fibres- M. Sc.- Sem II, Green Chemistry in Textile Processing - M. Sc.-Sem III, Techniques & Theory of Textile Colouration- B. Tech.- Sem IV, Environmental Aspects of Textile Processing - B. Tech.- Sem VII

Research Interests: Depolymerization of textile polymer waste and its Recycling, Decolourization of dyeing effluent, Effluent treatment and Waste minimization in textile wet processes, Enzyme

technology in processing, Natural dye extraction and applications, Heavy metal removal and recovery, Use of ultrasonic in textile processing.

Recognized Research Guide for Ph. D. (Tech.), M. Tech., Ph. D. (Sci.) in Chemistry

Guided students: Ph. D.: 24, **Masters:** 65

Total Research Publications:

International: 130, **National:** 108

Cumulative Impact Factor: 37.228; **H-Index (Total):** 21, **No. of total Citations:** 1569

Dr. Usha Sayed

BSc (Hons), BSc (Tech),MSc (Tech) Ph.D Tech.

Associate Professor

Subjects Taught: Introduction to Technical Textiles, Chemistry & Application of Textile Chemicals, Technology of Dyeing & Printing, Technology of Wet Processing Machineries, Technical textile, Technology of Garment Processing, Chemistry of Textile Auxiliaries, Textile Machineries.

Research Interests: Textile Processing, Dyeing, printing, Bleaching, Finishing, Recycling and Reuse of Dyes & Chemicals, Surfactants, Synthesis of Specialty Chemicals, Laundry Chemicals, Enzyme technology, Polymers, Fibre science, Technical textiles, natural dyes and polymers on natural fibers, leather processing, super absorbent, processing of hosiery, garment processing, technical textile, processing of non-woven, processing of wipes, shoe technology, Nano silicon finishing.

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

Guided students: Ph.D. : 1, **Masters:** 3

Total Research Publications-

National: 72, **International:** 10

Dr. Ravindra D. Kale

Ph.D. (Tech.)

Associate Professor

Subjects Taught: Technology of Textile Polymers,Polymer Chemistry,Testing & Analysis of Fibres,Testing of Textile Materials,High tech & Industrial Fibres, Technology of non-wovens,Dyeing of Natural and Synthetic fibres, Lab Testing of Textiles and Garments,Fastness Lab

Research interests: Effluent treatment using nano particles,Application of nano emulsions in Textil,Synthesis and application of nano particles,Use of Polyelectrolytes Multilayers for imparting Novel Properties to Textile Polymers,Green Composites,Biodegradable packaging films and foams,Functional Finishes for Natural & Synthetic Fibres, Use of Alternate sources of energy in Textile Processing,Processing of Polyester fibres at room temperature,Modification of Synthetic Fibres by Melt Spinning, Application of Magnetic Field in Textile Processing

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

Guided students: Ph.D. - 0, **Masters :** 13

Total Research Publications: 21

National: 04 **International:** 17

h-Index: 03 **Citations :** 38

Patents: 02

Dr. Asfiya Contractor

B.Tech., M.S. (Polymer Chemistry), Ph.D.

Adjunct Faculty

Department of Fibres and Textile Processing Technology

Phone: 022 33612812

Email id: aq.contractor@ictmumbai.edu.in

Subjects Taught: Technology of Textile Pretreatments,Technology of Dyeing,Textile Finishing Lab,Bulk Colouration Lab,Textile Pretreatments Lab.

Research Interest: : Metal plating of textiles for EMI shielding, wearable electronics and decorative printing.

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

Guided students: Ph.D. : 0, **Masters :** 0

Total Research Publications: 4

National: 0 **International:** 04

h-Index : 3, **Citations :** 6

Dr. Sandeep More

B.Sc., M.Sc. (Organic Chemistry), Ph.D.

DST INSPIRE Faculty

Department of Fibres and Textile Processing Technology

Phone: 022 33611111

Email id: sp.more@ictmumbai.edu.in

Subjects Taught: Chemistry and Applications of Textile Auxiliaries

Research Interests: Molecular Machines, Singlet Fission, Organic Electronics, Smart Textile, Novel Auxiliaries

Recognized Research Guide for Ph.D (Sci.) Organic Chemistry.

Guided students: Ph.D. : 0, **Masters :** 0

Total Research Publications: 11

National : 0 **International :** 11

H-Index : 07, **Citations :** 184

Patents: 0

DEPARTMENT OF FOOD ENGINEERING AND TECHNOLOGY

HEAD: PROF. UDAY S. ANNAPURE

Prof. Uday S. Annapure

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

Professor

Subjects Taught: Food Chemistry, Technology of Fruits, Vegetables and Tubers, Principles of Food Preservation, Technology of Cereals, Legumes and Oilseeds.

Research Interests: Extrusion Processing, Non-thermal processing of food-Cold Plasma Processing, Carbohydrate Chemistry & Technology - Plant Gums, Traditional Foods, Nutraceuticals, Fermentative production and downstream processing of industrially important secondary metabolites.

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

Guided students: Ph.D: 07, **Masters:** 59

Total Research Publications- National:08, **International:** 65

H-Index: 12, **Citations:** 434

National and International Awards: BOYSCAST Fellowship (DST Govt. of India) – 2010

Prof. Rekha S. Singhal

Ph.D (Tech) (Food Technology)

Professor of Food Technology and Dean (Research, Consultancy and Resource Mobilization)

Subjects Taught: Food Additives and Ingredients, Principles of Food Analysis, Technology of Milk and Dairy Products, Advances in Food Technology, Current Topics in Food Science and Technology, Modern Techniques in Food Analysis and Sensory Evaluation, 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. 29, **Masters:** 89

Total Research Publications- National: 13, **International:** 300

H-index as per scopus: 38; **Citations as per scopus:** 3845,

Patents (granted in last 5 years) 01

National Awards (last 5 years): 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, conferred on January 15, 2016.

Prof. S. S. Lele

B.Chem.Engg. M.Chem.Engg., Ph.D. (Tech.)
Fellow, Maharashtra Academy of Sciences
Fellow, Biotech Research Society of India (BRSI)
Registrar and Professor of Biochemical Engineering

Subjects Taught: Food Engineering, Fermentation Technology, Fundamentals of Food Process Engineering.

Research Interests: Food product/process development, biological effluent treatments, fruit and vegetable based dehydrated and nutritious product development, Food allergy, Fruit Wine.

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

Guided students: Ph.D. **:** 25, **Masters:** 62

Total Research Publications-

National: 8, **International:** 98

H-Index: 20 ,**Citations:** 1697

National and International Awards (last 5 years) : Distiguished Alumnus Award of UAA under Acdemics category, Dec. 2015. Zee Marathi Unch Majha Zoka, Women Achievers Award 2016.

Dr. Laxmi Ananthanarayan

B.Sc. (Mumbai, 1978), B.Sc. (Tech.) (Mumbai, 1981), M.Sc. (Tech.) (Mumbai, 1983), Ph.D. (Tech) Mumbai, 2010)
Associate Professor of Applied Biochemistry and Coordinator, M.Tech. Programme in Food Biotechnology

Subjects taught : Chemistry of Food Constituents; Nutrition; Food Packaging; Current Topics in Food Science and Technology; Basics of Human Nutrition, Advances in Nutrition; Enzymes in the Food Industry.

Research interests : 'Fermented Foods, Traditional Foods, Nutritional Food Product Development, Extruded Foods, Food Allergens, Bioactive Peptides, Novel Food Preservation Techniques, Problems of Small Scale Food Industries, Plant Biochemistry and Fruit Ripening, Natural Pigments, Protein Purification, Enzyme Production and Downstream Processing, Protein Hydrolysates, Detection of Adulteration/ Contamination, Food Safety, Nutritional Biochemistry'

Recognized Research guide for Ph.D. (Tech.) in Food Engineering and Technology, Food Biotecnology, Bioprocess Technology, Ph.D. (Sci) in Food Science, Biochemistry, Biotechnology

Guided students: Ph.D. 02, **Masters:** 69

Total Research Publications-

National: 02, **International:** 35

Dr. S. S. Arya

B.Tech. (Marathwada, 2002), M.Tech. (Mumbai, 2004), Ph.D. (Tech) (Mumbai, 2008)

Assistant Professor of Food Technology

Subjects Taught : Food Microbiology, Chemistry of Food Constituents, Technology of Cereals, Legume and Pulses, Technology of Plantation Crops, Current Topics in Food Science and Technology, Basics of Food Science and Technology, Technical Analysis I and II(P) , Food Microbiology (P), Food Chemistry (P), Food Analysis (P), Food Processing I (P)

Research Interests : 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, 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, Indian Flat Breads.

Recognized Research guide for Ph.D. (Tech.) in Food Engineering and Technology, Food Biotecnology, Bioprocess Technology, Ph.D. (Sci.) in Food Science

Guided students: Ph.D. 0

Masters: 15

Total Research Publications-

National: 03, **International:** 30

Dr. Jyoti Sontakke-Gokhale

Ph.D. in Bioprocess Technology

UGC Assistant Professor

Department: Department of Food Engineering & Technology & Department of Chemical Engineering

Subjects Taught: Food Biotechnology; Waste Management in Food Processing; Design & Analysis of Experiments; Biotechnology of Fermented Foods; Fermentation Technology; Nutraceuticals and Functional Foods; Technical Analysis Lab; Biochemistry lab; Microbiology Lab

Research Interests: Biocatalysis; Chiral Technology; Waste management; Fermentation Technology; Biofuels; Thermal & Non-thermal processing of Foods; Green Technology; Nutraceuticals

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

Guided students: Ph.D.: 0, **Masters**: 0

Total Research Publications- International: 5

Book chapters 2

H-Index: 3; **Citations:** 53

Dr. Snehasis Chakraborty

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

Assistant Professor

Subjects Taught: Food Engineering; Advances in Food Engineering; Current Topics in Food Science and Technology; and Technology of Plantation Crops.

Research Interests: Food Process Engineering, Non-thermal processing of food, Kinetics modeling, Shelf-life extension, Sensory analysis, Process optimization and Product development

Recognized Research Guide for: B.Tech. and M.Tech. in Food Engineering and Technology, Food Process Engineering

Total Research Publications-

National: 01, **International:** 18

H-Index: 06, **Citations:** 121

National and International Awards (last 5 years): Selected for DAAD fellowship for IIT Masters in 2011-12; Institute Silver medalist in 2010-12 in Agricultural & Food Engineering Dept., IIT Kharagpur.

DEPARTMENT OF OILS, OLEOCHEMICALS AND SURFACTANTS TECHNOLOGY

HEAD: PROF. R. D. KULKARNI

Prof. R. D. Kulkarni

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

Professor of Oil technology and

Head of the Department of Oils, Surfactants and Oleochemicals

Subjects Taught: Surface Active Agents, Production and Applications of Surfactants, Soaps and Detergents, Chemistry of Oleochemicals and Surfactants, Chemistry of Oils and Fatty Acids

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 Naocomposites, UV cure Multifuctional Monomers and Polymers, High Performance & Functional Coating Systems, Reaction Engineering and Nanocatalysis

Recognized Research Guide for Ph.D. (Tech.) in Oils, Oleochemicals and Surfactants Tech., Ph. D. (Sci.) in Chemistry

Guided students: Ph.D. : 11 (Completed), **Masters:** 42(Completed)

Total Research Publications :

National: 17, **International:** 43

(**H-Index** 14, **Citations** : 422,

Patents (granted): 2

Dr. A. P. Pratap

B.Sc. (Tech) (Mumbai, 1999), M.Sc. (Tech) (Mumbai, 2001), Ph.D. (Tech.) (Mumbai, 2006)

Associate Professor of Oils, Fats and Waxes Technology

Subjects Taught : Technology of Oil and Fat Production, Processing of Oil Bearing Materials, Processing of Oils, Fats and Waxes, Fat Based Products, Cosmetics and Perfumery, Processing of Oleochemicals and Cosmetics, Processing of Soaps, Detergents, Oleochemicals and glycerine, Trioboapplication Laboratory, Waxes, Lubricants and Greases, Technology of Fat Based Products, Analysis of Oils, Fats and Waxes

Research Interests : Tribo applications of oils and fats, structural modifications of oils, fats and fatty acids, Petroleum products, lubricants, Additives and specialty products, microbial Bio surfactants etc.

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

Guided students: Ph.D. 05, **Masters:** 41;

Total Research Publications-

National: 11, **International:** 30

Dr. Parag R. Nemade

B. Chem. Eng. (UDCT, Mumbai), M. S. & Ph.D. (University of Colorado)

UGC Assistant Professor for Chemical Engineering and Oil, Oleochemical and Surfactants Technology

Subjects Taught: Advanced Membrane Separations, Nanotechnology, Advanced Momentum Transfer, CE Lab

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

We also work on sustainability engineering, in areas such as sustainable sanitation, development of new applications for industrial wastes, etc.

Recognized Research Guide for

Guided students: Ph.D. 0, **Masters:** 10

Total Research Publications- International: 9

H-Index: 04; Citations: 195

Patents (granted in last 5 years): 0

National and International Awards: 3. DAE Young Scientitst 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. Dipak Vitthal Pinjari

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

DST INSPIRE Faculty (Assistant Professor Grade)

Subjects Taught: Introduction to Polymer Engineering, Advanced Materials, Advanced Topics in Polymer Chemistry/Analysis, Chemical Engineering Laboratory, Pharamaceutical Engineering

Research Interests: Sustainable and Environmental Engineering, Process Intensification, Cavitation Engineering and Technology, Synthesis of Nanomaterials, Polymers, Sonochemistry, and Paints Technology

Recognized Research Guide for Ph.D. (Tech) in Chemical Engineering, Ph.D. (Tech) in Oils, Oleo

chemicals and Surfactants Tech
Guided students: Ph.D. 0, **Masters:** 7 (completed),
Total Research Publications-
National: 4, **International:** 55
H-Index: 18, **Citations :** 1001
Patents (granted in last 5 years): 5
National and International Awards (last 5 years): Awarded Fulbright OLF Award 2015 by OIE and Awarded **Y**oung Engineers Award 2014-2015 by The Institution of Engineers (India); Awarded Wipro Earthian Award 2013 Young Associate, Maharashtra Academy of Science (2013); M. P. Chary Memorial Award 2013 for research and technological contribution. Young Engineer Award 2016, Indian National Academy of Engineers New Delhi.

Dr. J. T. Waghmare

B.Sc. (Tech) (Mumbai, 1998), M.Sc.(Tech) (Mumbai, 2002), Ph. D. (Mumbai, 2010)

Associate Professor of Oils, Fats, and Waxes Technology

Subjects Taught : Analysis of oleochemicals and surfactants, Analysis of oils, fats & waxes, Technology of edible fat production, Evaluation & testing of soaps & detergents, Analysis of raw materials of Oils, Science & Technology of essential Oils, Advances in Technology of Oils & Fats Production, Nutraceuticals.
Research interests : Nutraceuticals, oxidation studies, structural lipids, designer lipids. application of surfactant, Cosmatics, perfume, flavor and fragrances, enzymology.
Recognized Research guide for Ph.D. (Tech.) in Oils, Oleochemicals and Surfactants Technology
Guided students: Master : 18
Total Research Publications-
National: 05, **International:** 55

Dr. Chandu S. Madankar

M. Tech, Ph.D

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

Subjects Taught: Chemistry of Oils and Lipids, Essentials Oils Natural products and their applications, Cosmetics Science, Technology of Oleochemicals
Research Interests: Biolubricants, Supercritical fluids
Recognized Research Guide for: Oils, Oleochemicals and Surfactants Technology
Total Research Publications-
National:, 03, **International:** 04
Citations-85, **H Index-** 3
National and International Awards (last 5 years): 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, 2011-12.

DEPARTMENT OF PHARMACEUTICAL SCIENCES & TECHNOLOGY

HEAD: PROF. MARIAM S. DEGANI

Prof. Mariam S. Degani

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

Head, Dept. of Pharm. Sci. & Tech., Professor in Pharmaceutical Chemistry

Subjects Taught:

Research Interests: Drug design including ligand, structure and fragment based drug design. Synthesis of focused libraries of potential bioactive molecules for infectious and Alzheimer's diseases, based on rational drug design, using modern 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)

Guided students: Ph.D. : 14, **Masters:** 47

Total Research Publications-

National: 1, **International:** 68

H-Index: 15; **Citations:** 708;

Prof. K. G. Akamanchi

B.Sc. (Mumbai, 1973), B.Sc. (Tech.) (Mumbai, 1976), Ph.D. (Tech.) (Mumbai, 1985)

Professor in Pharmaceutical Technology

Subjects Taught : Pharmaceutical Chemistry, Pharmaceutical Technology, Chemistry of Natural Products.

Research Interests : Catalysis, Design and development of new reaction systems and reagents, hypervalent iodine(v) reagents and new transformations, process chemistry and technology for Drugs and Intermediates, Biotechnology with emphasis on membrane transport proteins isolation and characterization, antitubercular agents, Design and synthesis of dendritic surfactants for nanomedicine.

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

Guided students: Ph.D. 46; **Masters:** 82

Total Research Publications :

National: 5, **International:** 95

H-Index: 17; **Citations:** 1065;

National and International Awards:

Fellow of Maharashtra Academy of Sciences

Prof. P. D. Amin

B.Pharm. (Mumbai, 1982), M.Pharm. (Mumbai, 1984), Ph.D. (Tech.) (Mumbai, 1988)

Professor in Pharmacy

Subjects Taught : Pharmaceutics, Pharmaceutical Technology, Dispensing Pharmacy, Hospital Pharmacy.

Research Interests : Exploration of Hot Melt Extrusion Technology in Innovative Drug Delivery system, Development and evaluation of Fixed Dose Combinat ions, Improvisation Techniques for Manufacture and Evaluation of Solid Dosage Forms, Release modification designs for drug delivery system Design and Fabrication of Pharma machinery (R&D Models), Development of Added Functionality Excipients, ophthalmic drug delivery systems, modification in excipients, exploring the use of excipients

Recognized Research guide for Ph.D.(Tech) in Pharmaceutics, Pharmaceutical Technology, Bioprocess Technology

Recognized Research Guide for

Guided students: Ph.D. 19; **Masters:** 50;

Patents : 4

Total Research Publications-

National: 27, **International:** 47

National and International Awards:

Fellow of Maharashtra Academy of Sciences

Dr. Ganesh U Chaturbhuj

M. Pharm. Sc., Ph.D. (Pharmaceutical Chemistry)

Associate Professor

Subjects Taught: Pharmaceutical Analysis

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.

Recognized Research Guide for M. Pharm., M. Tech. (Pharma), M. Tech. (Bioprocess Technology, Ph.D. (Pharmaceutical Chemistry) Ph.D. (Sci.)

Masters: 06

Total Research Publications- International: 11

H-Index: 03.

National and International Awards (last 5 years): Awared with UGC Indo-Us Raman Post-Doctoral Fellowship to visit Northestern University, Boston, MA, USA for 2013-2014.

Prof. Padma V. Devarajan

Ph. D (Tech) Pharmaceutics

Professor in Pharmacy and TEQIP Coordinator, Coordinator : M.Tech Pharmaceutical Biotechnology

Subjects Taught: Pharmaceutics, Technology of Solid Dosage Forms, Technology of Sterile Dosage Forms, Drug Delivery Systems, and Targeted Drug Delivery Systems (DDS).

Research Interests: 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.Tech Pharmaceutical Biotechnology, Ph.D

Guided students: Ph.D. 39

Masters: 68

Total Research Publications :

National: 5, **International:** 67

Citations : 971, **H-Index-** 18

National and International Awards (last 5

years): 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 2011; Vividhlaxi Audyogik Samshodhan Vikas Kendra (VASVIK) 2014 Apex Committee's Smt. ChandabenMohanbhai Patel Industrial Research Award for Women Scientists(2008) in 2011; Felicitated by Indian Chemical Council as Woman Scientist in March 2012;

Prof. Archana R. Juvekar

Ph.D. (Tech)

Professor in Pharmacology and Physiology

Subjects Taught: Topic in pharmacology, Models for drug Delivery System, Pharmacology Toxicology and Therapeutics, Pharmacology, Clinical Pharmacy and Drug Interaction

Research Interests: Drug discovery and development from natural products, Elucidation of Pharmacological Potential of NCEs in Disease Models for Efficacy Studies, Safety Pharmacological Studies of NCEs, Regulatory Toxicity, Evaluation of Pharmacological Interventions Targeting Pathophysiological Cascades (Oxidative stress, ER stress, Inflammation, apoptosis) involved in depression, anxiety, Diabetes, Diabetic Complications, Cognitive impairment

Recognized Research Guide for

Guided students: Ph.D. 20

Masters: 63 (Completed)

Total Research Publications-

National: 48, **International:** 56,

H-Index : 12

No. of Citations : 486

National and International Awards: Received best Research Paper sponsored by the Al-Ameen College of Pharmacy Award for Best Paper published in IJPER 2011

Prof. K. S. Laddha

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

Professor of Pharmacognosy

Subjects Taught : Pharmacognosy, Phytochemistry and medicinal Natural Product

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: Ph.D. 16, **Masters:** 65

Patents : 1

Total Research Publications-

National: 64, **International:** 26

Prof. Vandana. B. Patravale

Ph.D. (Tech.)

Professor of Pharmaceutics

Subjects Taught: Pharmaceutics, Cosmeticology, Validation and regulatory affairs, Nanoscience and technology, Drug delivery system, Advance pharmaceutics, Targeted drug delivery system, Pharmaceutics laboratory, Cosmeticology

laboratory, Technology of liquids and topicals laboratory, Solid dosage form laboratory

Research Interests: Nanotechnology based drug and gene delivery systems (major emphasis on malaria, cancer and neurodegenerative disorders), Medical devices (coronary stents, intrauterine devices), Vaccines and adjuvants, Nanodiagnostics, Modified release dosage forms, Tissue engineering and scaffolds, New polymer and lipid conjugates, surfactant synthesis, Indigenous excipients, Cosmeceuticals

Recognized Research Guide for Ph.D. (Tech.), Ph.D. (Sci.)

Guided students: Ph.D.: 20

Masters: 59

Total Research Publications-

National: 11, **International:** 68

H-Index: 35; **Citations:** 4209

Patents (granted in last 5 years): Patent:3 Trademark:1 Industrial design: 1

National and International Awards (last 5 years): 50

Prof. Sadhana Sathaye

Ph.D (Tech)

Professor of Pharmacy

Subjects Taught: Anatomy, physiology and pathophysiology-I, Anatomy, physiology and pathophysiology-II, Anatomy, physiology and pathophysiology laboratory-I, Pharmacology-I

Research Interests: Neurological/ neurodegenerative disorders like epilepsy, Parkinson's disease and Alzheimer's disease, Diabetes mellitus and diabetic complications, Isolation of phytoconstituents from herbal extracts and their investigation as a promising therapy for disorders mentioned above.

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

Guided students: Ph.D.: 12

Masters: 41

Total Research Publications-

National: 12, **International:** 51

H-Index: 12; **Citations**: 506

National and International Awards: Fellow, Maharashtra Academy of Sciences; 2015

Dr. V. N. Telvekar

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

Associate 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 sysnthesis 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. 10, **Masters:** 40

Total Research Publications- International: 59

Prof. P. R. Vavia

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

Dean (Academic) and Professor in Pharmaceutics, In-charge Head of the Department of Oils, Surfactants and Oleochemicals

Subjects Taught: Pharmaceutics, Drug Delivery systems, Advanced Pharmaceutics, Biopharmaceutics & Pharmacokinetics

Research Interests: 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. 31, **Masters:** 47

Total Research Publications :

National: 21, **International:** 109

H-Index : 23, **Citations :** 2118

National and International Awards received VASVIK Award in the category of Biological Sciences & 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

Dr. Prajakta Dandekar Jain

B.Pharm. (Mumbai, 2003), M.Tech. (Mumbai, 2006), Ph.D. (Tech.) (Mumbai, 2009)

UGC Assistant Professor in Engineering Sciences

Subjects Taught: Pharmaceutical Biotechnology

Research Interests: Development of 2 D and 3 D cellular models for evaluating drugs and delivery systems, Development of biopolymer scaffolds for tissue engineering, Microbioreactors for development of artificial organs, development of polymer and metal nanoparticles for application in biomedical and allied areas

Recognized Research Guide for Ph.D. (Tech.) in Bioprocess Technology and Green Technology, M.Tech in Bioprocess Technology, Green Technology, Pharmaceutical Biotechnology

Guided Students: Ph.D. 05, **Masters:** 04, **Total Research Publications-**

National: 01, **International:** 20

Citations: 399, **H-Index:** 11, **Patents (granted in last 5 years):** None, Filed: 03

National and International Awards: 'Gandhian Young Technological Innovation Award 2015' DAE Young Scientist Research Award, 2012; Young Associate of Maharashtra Academy of Sciences for the contribution to Engineering and Technology, 2012; Ramanujan Fellowship, DST, 2012.

Dr. Hemchandra Keshav Chaudhari

M.Pharm in Medicinal Chemistry, Ph.D. (Tech) in Pharmaceutical Chemistry

Assistant Professor in Pharmacy

Subjects Taught: Pharmaceutical Chemistry, Medicinal Chemistry

Research Interests: Design of bioactive novel molecules using Computer Aided Drug Design. Synthesis of designed novel molecules by conventional or novel routes and evaluation of synthesized molecules.

Recognized Research Guide for: Pharmaceutical Chemistry

Guided Students: Ph.D. 01, **Masters:** 04,

Total Research Publications : International: 5

H-Index : 3 and **Citations:** 50

Prof. Shreerang V. Joshi

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

Professor of Pharmaceutical Chemistry

Department of Pharmaceutical Sciences & Technology

Subjects Taught: Pharmaceutical Chemistry

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

Guided Students: Masters: 02,

Recognized Research Guide for: M.Tech., M. Pharma, Ph.D (Sci.), Ph.D (Tech).

Total Research Publications- International 04

Patents: 31

DEPARTMENT OF POLYMER TECHNOLOGY

HEAD: PROF. R. N. JAGTAP

Prof. R. N. Jagtap

B.Sc. (1989) BSc (Tech.) (Mumbai, 1992),
MSc. (Tech.) Mumbai, 1996) Ph.D Tech.
Professor in Paint Technology, Head of Department, PSE

Subjects Taught: Advanced Surface Coating Technology II, High Performance Coatings, Corrosion Science & Corrosion Prevention.

Research Interests: Living Radical Polymerization for Tailor-made Polymers i.e. ATRP, RAFT ,NMP Nanomaterial's and Nano composite, Recycling of e-waste, Antimicrobial Polymer and Paints, Heat reflective coatings, Corrosion, Eco friendly coating, Flame Retardant Coating , U.V Radiation Polymerization

Recognized Research Guide for: M.Tech. , Ph.D

Guided students: Ph.D. 12 (Completed), 6 (Ongoing), Masters 40 (Completed), 8 (Ongoing)

Total Research Publications-

National: 08, **International:** 35

H-Index : 07, **Citation :** 161, **Co-authors:** 28

Patents (granted in last 5 years): 02

Prof. Prakash Anna Mahanwar

Ph.D (Tech), M.Sc (Tech), B.Sc (Tech), B.Sc (Chmesitry)
Professor of Polymer Technology, Department of Polymer and Surface Engineering, ICT, Mumbai.

Subjects Taught: Structure Property Relationship, High Polymer Chemistry, Polymer Rheology, Polymer Processing & Technology-1, Polymer Blends & Alloys

Research Interests: Polymer Blend, Bio-Polymers, Polymer Composite, green additives, synthesis of Nano-materials and fibers, conducting polymers.

Recognized Research Guide for-

Guided students: Ph.D. : 22

Masters: 59

Total Research Publications-

National: 5, **International:** 65

Citationas : 664; **H-index :** 15

Patents (granted in last 5 years)- 06

National and International Awards (last 5 years)- Fellow of Maharashtra Academy of Science

Dr. Shashank Mhaske

Ph. D (Tech) (Polymer Technology)
Associate Professor

Subjects Taught: Evaluation and chacaterization of polymers, Compounding and Polymer Processing – I, Paint Processing, Polymer Chemistry, Polymer & Processing Technology – III, Analysis & Pigment Synthesis, Synthesis & Characterization of raw materials.

Research Interests: Novel approached synthesis of Nano particles, Sol gel techniques, synthesis of resins from renewable resources, Synthesis and Characterization of Resins, Water Borne Coatings, Insulating Varnishes, conductive coatings, anticorrosive coatings, Cellulose based nanoparticles and whiskers, Bio Nanocomposites, Devlopment of Thermoplastics vulcanizates and elastomer, Recycling and recovery of polymers.

Recognized Research Guide for

Ph. D (Tech): 10

Ph. D (Chem): 02

Guided students: Ph.D: 05

Masters: 29

Total Research Publications-

National: 28, **International:** 63

Patents (granted in last 5 years): Nil (applied 03)

National and International Awards (last 5 years): 3rd National Award for Technology Innovation in "Green Polymeric Materials & Products" By Dept. of Chemicals and petrochemicals, Ministry of Chemicals and fertilizers. Govt. of India.Young Associate of Maharashtra Academy of Sciences. Govt. of Maharashtra.

Shri A. R. Rao

B.Tech. (Amaravati, 1998), M.Tech. (Mumbai, 2007)

Assistant Professor of Polymer Technology

Subject Taught : Compounding and polymer processing, Technology of Thermoplastics Identification and Analysis of Polymer, Polymer Processing-II, Chemistry and Technology of Plastics, Synthesis and Characterization of Polymers

Research Interests: Polymer Blends and Alloys, Polymer Nanocomposites, Controlled radical Polymerization, Recycling of Polymers Biodegradable Polymers

Total Research Publications-

National: 02, **International:** 01

Dr. Anagha Shamsundar Sabnis

BSc., MSc. Ph.D (Tech.) in Surface Coating Technology

Assistant Professor

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, Non-isocyanate polyurethane coatings etc.

Recognized Research Guide for Recycling of PET/PU waste for coatings, bio-based plasticizers for PVC, flame resistant coatings, non-isocyanate polyurethane coatings, sol-gel coatings, modification of renewable resources for coatings.

Guided students: Ph.D: 1, **Masters:** 16

Total Research Publications :

National: 2, **International:** 27

Cumulative Impact Factor: 41.66;

H-Index- 8; **Citations**: 201

Dr. V. V. Shertukde

B.Sc. (1987), B.Sc. (Tech.) (Mumbai, 1990), M.Sc. (Tech.), (Mumbai, 1993) Ph.D. (Tech.) (Mumbai, 1997)

Sir Homi Mehata Associate Professor in High Polymer Chemistry

Subjects Taught : Polymer Blends & Alloys,Polymer composites, Radiation curable coatings, Adhesion & Adhesives, Polyelectrolytes, High polymer chemistry, Polymer Science & Technology Technology of Elastomers, Advances in polymer science & Technology, Technology of Thermoset Resins, Polymer additives, Polymer Processing.

Research Interests : Polymer Composites/ Nanocomposites, Polymer Blends & Alloys, Recycling of plastics, Corrosion protection, Thermally stable polymers, Adhesives, Paper coatings etc.

Recognized Research guide for Ph.D. (Tech.) in Polymer Engg. and Technology, Surface Coating Tech., Ph.D. (Sci.) in Chemistry.

DEPARTMENT OF CHEMISTY

HEAD: PROF. RADHA V. JAYARAM

Prof. Radha V. Jayaram

M.Sc., Ph.D.

Professor of Physical Chemistry

Subjects Taught: Catalysis, chemical kinetics, quantum chemistry, surface and interfacial chemistry, lab courses in physical chemistry and organic chemistry

Research Interests: Heterogeneous catalysis and green chemistry, Functional polymers, Adsorption techniques for removal of water pollutants, Recovery of spent metals, phase transfer catalysis, Enzyme catalysis, Photo-catalytic degradation, Waste water treatment, Functionalized carbon materials

Recognized Research Guide for Chemistry and Green Technology

Guided students: Ph.D.:- 20, **Masters:** 32

Total Research Publications : International: 90

H-Index: 24; **Citations:** 1822

National and International Awards: CMP Endowment Best Teacher Award 2014-15; Best Woman teacher award by Asociation of Chemistry Teachers India 2015-16. Elected as Scientific committee member, 48th IChO, Tbilisi, Georgia, July 2016

Prof. Bhalchandra M. Bhanage

M.Sc, Ph.D. (NCL, Pune)

Professor of Industrial and Engineering Chemistry

Subjects Taught: Organic Chemistry, Organometallic Chemistry, Catalysis

Research Interests: Catalysis, Ionic Liquids, Nanomaterials, Enzymatic Catalysis, Coupling Reactions, Amination, Reactions using CO, CO2 and hydrogen.

Recognized Research Guide for: Chemistry, Green Chemistry and Technology, Biotech Sciences, NanoScience and Nanotechnology.

Guided students: Ph.D. 30, **Masters:** 25

Total Research Publications-

National: 02, International: 341

Citations: 7445 **H-Index** : 45

Patents : 19

National and International Awards (last 5 years): Elected Fellow of Maharashtra Academy of Sciences (F.M.A.Sc.); Fellow of the Royal Society of Chemistry, UK (FRSC); RSC-PTG best paper award by Royal Society of Chemistry 2011; Bronze Medal for Contributions in Research by Chemical Research Society of India, 2012; ISCMA Outstanding Professor Award by Indian Specialty Chemical Manufacturers Association for excellence in academic field for the year 2012 and in 2015; Prof. M.M. Sharma Science and Technology Award for contributions in research by Marathi Vidyan Parishad, 2014.

Prof. Shriniwas D. Samant

M. Sc. (Organic Chemistry), Ph. D.

Professor of Organic Chemistry

Subjects Taught: Organic Chemistry Stereochemistry, Spectroscopy, Heterocyclic Chemistry, Research Methodology for Chemical Sciences

Research Interests: Mechanistic Organic Chemistry, New methods of Organic synthesis, Sonochemistry, Acid and Base Catalysis.

Recognized Research Guide for

Guided students: Ph.D. 55

Masters: 18

Total Research Publications :

National: 50, **International:** 97

Total citations: 2640; **H-Index :** 31

Patents : 02

Prof. (Mrs.) Jayashree M. Nagarkar

M.Sc. Ph.D.

Professor

Subjects Taught: Physical Chemistry, Analytical chemistry

Research Interests: Surface and Interfacial Chemistry, Electrochemistry, Homogeneous and Heterogeneous Catalysis, , ultrasound assisted organic reactions & catalysis,

Recognized Research Guide for -Ph.D. (Chemistry)

Guided students: Ph.D.- 6 (Completed), **Masters:** 18 (Completed)

Total Research Publications-

National: 2, **International:** 50

H-Index : 14; **Citations :** 420

National and International Awards: Fellow of Maharashtra academy of Sciences 2015.

Dr. Anant R. Kapdi (MRSC, AVH Fellow)

M.Sc. Organic Chemistry (Mumbai University), M.Sc. By Research (University of York, U.K.), Ph.D. (Organic Chemistry- University of York, U.K), Alexander von Humboldt Fellow

UGC-FRP Assistant Professor of Organic Chemistry

Subjects Taught: Organic Chemistry Natural Product Heterocyclic Chemistry Organic Chemistry Practicals and Analytical Chemistry

Research Interests: Homogeneous catalysis Heterogenization of the complexes on solid support, Green Technology approaches for synthesis, Microwave assisted organic synthesis, Natural Product synthesis

Recognized Research Guide for Ph.D. Organic Chemistry

Guided students: Ph.D. 0, **Masters:** 16

Total Research Publications-

National: 2, **International:** 54

H-Index: 20

Citations: 3305

National Awards (last 5 years) Alexander von Humboldt Fellowship 2008, Alexander von Humboldt Return Fellowship 2013, DAAD Fellowship for Scientists 2014, Young Associate of Maharashtra Academy of Sciences. Fellow Maharashtra Academy of Sciences 2016.

Dr. Vijay Kumar A.

Ph.D.

Assistant Professor in Organic Chemistry

Subjects Taught: Bioorganic Chemistry, Organic Synthesis, Organic Chemistry Laboratory, Organic Chemistry

Research Interests: Recyclable reagents for supported catalysts for Organic Transformations, Aerobic oxidation, Surrogate Green Reagents for Organic Synthesis.

Recognized Research Guide for: Ph.D.

Guided students : Masters: 08

Total Research Publications :

National: 0, **International:** 24

Citations: 1049; **H-Index:** 16;

Dr. Shraeddha Tiwari

Ph.D.

Assistant Professor in Inorganic and Physical Chemistry

Subjects Taught: Physical Chemistry, Physical Pharmacy, Analytical Chemistry, Instrumental Analysis, Surface and Interfacial Chemistry

Research Interests: Kinetic and mechanistic investigation of organic reactions, interfacial reactions, "on water" chemistry, reactions in confined

media, physical and chemical properties of ionic liquids, space- and time-resolved spectroscopic techniques, asymmetric amplification, transport phenomena in reactions

Recognized Research Guide for Ph. D. Science

Guided students: Ph.D. 0, **Masters:** 04

Total Research Publications : International: 07

Total citations: 201,

Dr. P. M. More

M.Sc. Ph.D.

Assistant Professor

Subjects Taught: -Analytical and Physical Chemistry Lab, Physical Pharmacy Lab.

Research Interests: Heterogeneous Catalysis, Total oxidation of volatile organic compound using non-noble metal based catalyst, Development of non-noble metal based diesel oxidation catalyst

Total Research Publications :

National: 01, **International:** 05

H-index : 03, **Citation :** 27

Patents : 01

Dr. Dawande S. G.

Ph. D.; M. Sc.

Assistant Professor

Research Interests: Mainly focused on Organic synthesis, Catalysis and Medicinal Chemistry through; Transition Metal Catalysis, Organocatalysis, Asymmetric Synthesis, Natural Product Synthesis, Green Chemistry

Recognized Research Guide for: Ph.D. Chemistry

Total Research Publications: International: 04

Citations: 36, **H-Index:** 2

Dr. Kaustubh A. Joshi

Ph.D (Chemistry)

DST Ramanujan Assistant Professor

Subjects Taught: Physical Pharmacy, Physical Chemistry, Physical Chemistry Laboratory, Analytical Chemistry Laboratory, Chemical Bonding, Molecular Spectroscopy, Computational Chemistry, Computational Chemistry Laboratory, Chemical Engineering component laboratory

Research Interests: Density Functional Calculations, Quantum Chemical studies for small size molecules, Organic reaction mechanisms using static QM calculations. QM/MM molecular dynamics study to understand solvent effect in organic and enzymatic reactions, CADD, Molecular Docking studies for protein-ligand interactions. Understanding Bone Health at molecular level by QM and QM/MM methods.

Recognized Research Guide for: Chemistry

Guided students: Ph.D. 0, **Masters:** 4

Total Research Publications : International: 18

H-Index : 5 ; **Citations :** 141

Dr. Dipanwita Das

Ph.D in Chemistry

DST-INSPIRE Faculty

Subjects Taught: Inorganic Chemistry, Chemistry of transition metals, Inorganic Chemistry, Theory, Inorganic Chemistry Laboratory, Inorganic Chemistry Laboratory, Analytical Chemistry Laboratory, Physical Chemistry laboratory, Physical Pharmacy laboratory

Research Interests: Heterogeneous catalytic oxygen reduction reaction by metal organic frameworks: Structure-Reactivity Correlation, Ruthenium polypyridyl complexes: inorganic photo physics and bio-sensing, Molecular Recognition and sensing, Study of Photo-chromic Isomerization reaction on ruthenium complexes, Hydrogen production and carbon dioxide reduction

Recognized Research Guide for Ph.D. in Chemistry

Masters: 03

Total Research Publications : International: 12

Total Citations: 234; **H-Index:** 10

Dr. Sanghamitra Chatterjee

M.Sc., Ph.D

DST INSPIRE Faculty

Subjects Taught: Analytical Chemistry, Physical/ Analytical Chemistry (Laboratory), Analytical Chemistry

Research Interests: Organic Electrochemistry, Biomedical applications of nanomaterial modified sensors, Materials science and Nanotechnology, Electrochemical sensing techniques for clinical diagnostics and environmental monitoring, Electrochemical catalysis, Biosensors and arrays.

Recognized Research Guide for Ph.D. Chemistry

Guided students: Ph.D. 0, **Masters:** 0

Total Research Publications :

National: 01, **International:** 24

H-Index: 13; **Citations:** 1400

National and International Awards (last 5 years): Emerging Scientist Award in the 7th Annual Research and Innovation Week, Ontario, Canada.

DEPARTMENT OF GENERAL ENGINEERING

HEAD: Prof. VIVEK R. GAVAL

Prof. Vivek R. Gaval

B.E(Production)(Mumbai,1987), M.E (Plastic Engg) (Mumbai,1991), Ph.D(Tech)(Mumbai,2012)

Professor in General Engineering Department.

Subjects Taught: Energy Engineering, Equipment Design and Drawing, Engineering Graphics, Advance Strength of Materials, Processing of plastics.

Research Interests: Particulate filled polymer composites, conversion of Metal parts into plastic using Design softwares.

Recognized Research Guide for : Ph.D (Tech) in Plastic Engineering.

Masters: 21

Total Research Publications : International: 6

Dr. Dilip Dhondu Sarode

B.E. (Civil) (Mumbai, 1986), M.E. (Structural) (Mumbai, 1990), Ph. D. (I.I.T. Bombay, 2010), P. G. D. (Const. Management) (Mumbai, 1988), D.C.S.T. (Mumbai, 1999)

Associate Professor of Civil Engineering

Subjects Taught: Engineering Mechanics & Strength of Materials,Structural Mechanics and Process Equipment Design I

Research Interests: Concrete Technology – Construction Chemicals - Risk Analysis and its mitigation. Recycling of wastes.

Recognized Research Guide for Civil Engineering and Plastic Engineering

Guided students: Ph.D. : 01, **Masters:** 10

Total Research Publications :

National: 14, **International:** 20

Patents : 0

Prof. S. P. Deshmukh

D.M.E. (Ratnagiri, 1983), B.E. (Prod.) (Mumbai, 1986), M.E. (Prod.) (Mumbai, 1992), Ph.D. (Mumbai 2009)

Professor - cum -Workshop Superintendent

Subjects Taught : Equipment Design & 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. Solary Hybrid Energy, Refrigeration Air Conditioning, Heat Transfer through microchannel.

Recognized Research guide for Ph.D. (Tech.) in Mechanical Engineering, Plastic Engineering, Electrical Engineering, Electronic Engineering

Guided students: Ph.D. : 01, **Masters:** 17

Total Research Publications :

National: 07, **International:** 24

Dr. A. C. Rao

B.E. (Mech.) (Mumbai, 1975), M.E. (Mech. with Plastic Eng.) (Mumbai, 1977), Ph. D. Tech (Mumbai 2012).

Associate Professor of Mechanical Engineering

Subject Taught : Testing of Plastics, Plastic Product design, Processing of Plastics, Design and Fabrication of Molds and Dies, Principles of Plastic Machinery Design.

Research Interest : Design and Fabrication of plastic molds and Dies, Processing of Plastics, Plastic Machinery Design, Analysis of plastic articles and molds/dies using CAD/CAM/CAE.

Recognized Research guide for M.E. (Plastics) Ph.D. (Tech.) in Plastic Engineering, Mechanical Engineering

Guided students: Ph.D. : 03, **Masters:** 30

Total Research Publications : International: 06

Shri. M. A. K. Kerawalla

B.E. (Elect.) (Mumbai, 1981), M.E. (Elect.) (Mumbai, 1984)

Associate Professor of Electrical Engineering

Subject taught : Electrical Engineering and Electronics

Research Interest : Power Electronics and Controls

Mrs. Prerana Goswami

B.E. (Electrical), M.E. (Instrumentation and Control)

Assistant Professor (Selection Grade)

Subjects Taught: Electrical Engineering and Electronics

Research Interests: Sustainable Energy and MATLAB simulations

Total Research Publications :

National: 2, **International:** 3

Dr. R.S.N.Sahai

Ph.D(Tech)

Associate Professor (Selection Grade)

Subjects Taught: Engineering Graphics I,II, Energy Engineering, Processing of Plastics, Principle of Plastic Machinery Design

Research Interests: Polymer Composites, Mould Design

Recognized Research Guide for M.E (Plastic Engineering), Ph.D (Plastic Engineering)

Masters: 09

Total Research Publications : International: 04

DEPARTMENT OF MATHEMATHICS

HEAD: Prof. A. K. SAHU

Prof. A. K. Sahu

B.Sc. (Utkal, 1976), M. Sc.(Utkal, 1979), Ph. D.(IIT, Mumbai, 1992)

Professor of Engineering Mathematics.

Subjects Taught: **UG** - Engineering Mathemathics

M.Sc. in Engineering Mathematics: Fluid Mechanics I, Mathematical Biology, Fluid Mechanics II, Computational Fluid Dynamics II, Mathematical Modeling & Designing, Heat and Mass Transfer

Research Interests: Computational Fluid Dynamics, Mathematical Modeling, Numerical Methods

Recognized Research Guide for Ph. D. (Sci.) in Mathematics

Guided students: Ph.D. 01, **Masters:** 01

Total Research Publications :

National: 07, **International:** 08

Dr. Amiya R. Bhowmick

Ph.D

Assistant Professor

Subjects Taught: Bachelors: Applied Mathematics – I, Applied Mathematics-II, Engineering Application of Computer; Masters: Applied Statistics-I, Applied Statistics- II, Applied Statistics-III, Software Lab

Research Interests: Growth curve models, Ecological Modelling, Stochastic Population Dynamics

Recognized Research Guide for

Guided students: Masters: 1

Total Research Publications :

National: 2, **International:** 12

Citations : 46; **H-Index :** 4

Dr. Ajit Kumar

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

Associate Professor of Mathematics

Subjects Taught : **UG** - Applied Mathematics IV, **PG** - Advance Calculus, Computer Applications - I, Software Lab - I, Optimization Techniques, Software Lab - II, Numerical Methods, Optimization Techniques, Software Lab- I, Computer Programming, Bioinformatics and Statistics Lab

Research Interests : Optimization Techniques, Statistical Analysis, Differential Geometry, Mathematical Padagogy

Recognized Research guide for Ph.D. (Sci.) in Mathematics

Guided students: Ph.D. 0

Total Research Publications :

National: 01, **International:** 08

Dr. V. Divya

B.Sc (St. Stephen's College - University of Delhi, 2005), M.Math (Indian Statistical Institute – Bangalore, 2007), Ph.D (University of Genoa – Italy, 2013)

UGC Assistant Professor of Mathematics (joined November 2016)

Subjects taught : Bachelors - Applied Mathematics II Masters – Differential Equations II

Research interests: Fluid mechanics, Non-linear dynamics, Inverse problems and their applications

Guided students: Masters : 0

Total research publications: International : 8

DEPARTMENT OF PHYSICS

HEAD: Dr. MOHAN NARAYAN

Dr. Mohan Narayan

B.Sc.(Mumbai, 1988), M.Sc.(Mumbai, 1990), Ph.D.(Madras, 1999)

Associate Professor

Subjects Taught: Quantum Mechanics, Statistical Mechanics, UG Lab, PG – Quantum Mechanics

Research Interests: Theoretical High Energy Physics, Cavitation and Nucleation phenomena, Molecular dynamics

Recognized Research Guide for Ph.D. (Sci) in Physics

Guided students: Ph.D. – 02 (ongoing)

Total Research Publications-

National: 03, **International:** 21

Impact factor-range: 1.0 to 6.11; **H-Index:** 10; **Citations:** 350

Prof. V. D. Deshpande

M.Sc. (Delhi, 1978), M.Phil. (Delhi, 1980), Ph.D. (Delhi, 1986)

Professor of Colour Physics

Subjects Taught: Applied Physics, Colour Physics

Research Interests: Polymer nanocomposites, Polymer blends: Crystallization kinetics, Mechanical and optical properties, study of dielectric

behavior, Orientation behavior, structure-property relationship; Colour Physics: Colour assessment of dyed textiles; Assessment of the effect of the background on the colour perception; Polymer embedded nano-drug delivery; background on the colour perception

Recognized Research Guide for Ph.D. (Sci) in Physics

Guided students: Ph.D. : 04

Total Research Publications :

National: 06, **International:** 19

Citations: 25

Patents : 01

Prof. R. R. Deshmukh

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

Professor

Subjects Taught: Heat, Optics, Lasers and Fibre optics, Thin films, Chromatographic Techniques

Research Interests: Plasma Technology, Polymer Physics, Functionalization of nanoparticles, Molecular tailoring of surfaces using plasma for biomedical applications, textile physics, Electro-optical properties of Polymer Dispersed Liquid Crystals, Polymer nanocomposite materials

Recognized Research Guide for Ph.D. (Sci) in Physics, Chemistry

Guided students: Ph.D. : 0

Total Research Publications :

National: 04, **International :** 51

H-Index: 14; **Citations:** 683

Dr. Neetu Jha

B.Sc. (Kolkata Univ, 2002), M.Sc. (BHU, 2004), Ph.D. (IIT-Madras, 2009)

UGC FRP Assistant Professor

Subjects Taught: Advanced Materials, Nanoscience and Technology

Research Interests: Carbon nanomaterials (Carbon nanotubes and graphene) and their energy related applications

Recognized Research Guide for Ph.D. (Sci) in Physics

Guided students: Ph.D. : 0, **Masters:** 03

Total Research Publications : International : 14

H-Index: 10; **Citations:** 433

Patents : 01

Dr. Awaneesh Singh

B.Sc. (ECC, Allahabad, 2001), M.Sc. (JNU, 2003), Ph.D. (JNU, 2010)

Assistant Professor (UGC)

Subjects Taught: Statistical Physics, Computational Physics

Research Interests: Theory and simulations of multicomponent mixtures: simple fluids, polymer blends, block-copolymers; Pattern formation in nonequilibrium systems; Computational analysis of the polymerization

(ATRP, FRP, Photo-CRP) processes; Computational design of smart materials

Recognized Research Guide for Ph.D. (Sci) in Physics

Guided students: Ph.D.: 0, **Masters:**

Total Research Publications :

National: 0, **International:** 18

H-Index: 2, **Citations:** 24

Patents : 0

Dr. Ashwin Mohan

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

Assistant Professor

Subjects Taught: Quantum Mechanics, Color Physics Lab

Research Interests: Experimental Condensed Matter Physics, Thermal transport and magnetism in Low-dimensional magnets, low-temperature physics

Recognized Research Guide for Ph.D. (Sci) in Physics

Total Research Publications- International: 03

Impact factor-range: 1 to 6; **Citations:** 21

DBT-ICT CENTRE FOR ENERGY BIOSCIENCES

HEAD: PROF. ARVIND M. LALI

Professor A. M. Lali

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

Professor (Chemical Engineering), Head, DBT-ICT-Centre for Energy Biosciences

Subjects Taught: Bioprocess Simulation Modeling & Bioreactor Design, Instrumentation & Process Control, Adsorptive Separations Statistical Methods.

Research Interests : Bioenergy, Biofuels and biomass to other chemicals, Purification of Proteins, nucleic acids & other Biomolecules, natural & synthetic APIs high value organic/ inorganic chemicals, Continuous chromatography, Modeling & Adsorptive separations, Biocatalysis & Bio transformations, Bioreactor design, Mixing & dynamics of solid liquid fluidized bed, Dynamics of gas-solid circulating fluidized bed, Process integration & intensification, Process development, characterization & scale up.

Recognized Research guide for Ph.D.(Tech.) in Chem. Engg., Bioprocess Technology, Ph.D.(Sci.) in Chemistry, Biotechnology.

Guided students: Ph.D. Guided 37; Ongoing – 31

Masters: Guided: 75; Ongoing – 03

Total Research Publications- International: 50

Patents (granted in last 5 years): 66 (Internationa) and 25 (National)

Dr. Sandeep Kale

B. Pharm., M. Tech. BPT, Ph.D. Tech (Chem. Eng.)

Associate Professor of Bioprocess Technology, Coordinator, Bioprocess Technology Program, Deputy Coordinator, DBT-ICT-Centre for Energy Biosciences,

Subject Taught: Unit Operations in Bioprocessing. Bioanalytical Techniques, Advance topic in Adsorptive & Chromatographic separations, Membrane Separations

Research Interests: Design and development of downstream processes for biopharmaceuticals, biological, natural products and synthetic API (extraction, biotransformation, adsorptive and selective chromatographic separations, membrane filtration, crystallization, lyophilisation, and drying) Protein stabilization, Process characterization, process integration and intensification, optimization and controls, QbD, Analytical method development and characterization, Validation, Enzyme technology & Biocatalysis, Fermentation, Scale-up.

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

Guided students:

Ph.D. 10 (Guided); 14 (Ongoing)

Masters: 18 (Completed); 4 (Ongoing)

Total Research Publications-

National: 2, **International:** 23

Patents (granted in last 5 years): 20 (International) and 4 (National)

Dr. Annamma Anil Odaneth

B.Sc. Microbiology, M.Sc. Biotechnology,

P.G. Diploma in Bioinformatics, Ph.D. Applied Chemistry

Associate Professor of Biochemistry

Subject Taught: Biological Sciences, Protein and Enzyme; Engineering; Biocatalysis & Enzyme Technology.

Research Interests : Extractive Biotransformation, Design & Engineering of enzymes, selective Isolation & Capture of Natural Bioactive Molecules, Secondary Agriculture & its products, process integration & intensification, Process development, characterization & scale up.

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

Guided students:

Ph.D. 5 (Co-Guided); 12 (Ongoing),

Masters: 7 (Completed); 2 (Ongoing)

Total Research Publications- International: 6

Patents (granted in last 5 years): 5 (International)

Dr. Reena Pandit

B.Sc. Zoology, M.Sc. Marine Biology,

Ph.D Marine Biotechnology

Associate Professor

Subject Taught: Biochemistry, Green Biotechnology

Research Interests: Algal growth engineering

for production of biofuel and biochemicals, CO_2 sequestration & waste water management using micro and macroalgae, Genetic engineering of cyanobacteria for value added compounds

Recognized Research guide for M. Tech. Bioprocess Technology and Green Technology

Guided students: Ph.D. 5 (Co-Guided)

Masters: 8 (Completed); 3 (Ongoing)

Total Research Publications-

National: Nil, **International:** 9

Patents (granted in last 5 years): 1 (National)

Dr. Gunjan Prakash

M.Sc (Plant Sciences), Banasthali Vidyapith, Rajasthan; Ph.D (Plant Biotechnology & Fermentation), IIT Delhi

Associate Professor

Subjects Taught: Microbiology, Fermentation

Research Interests: Molecular Biology of algae and marine protist, Algal Biotechnology and Biofuels, Production of high value compounds from Algae and Plants, Fermentation for value added compounds

Recognized Research Guide for: Biotechnology (Science)

Guided students: Ph.D.

Masters: 4

Total Research Publications-

National: 2, **International:** 13

Cumulative impact factor for last 5 years- 6.113

H-Index- 7

Citations data- Total 217 citation

Patents (granted in last 5 years) - NA

National and International Awards (last 5 years) Indo-Queensland Early Career Fellowship 2012 by Department of Biotechnology, Government of India; Biovision, World Life Science Forum to participate in World Life Science Forum at Lyon, France.

Dr. Aruna Mahesh

B.Sc. Biochemistry, M.Sc. Biotechnology, Ph.D Chemistry

Research Scientist

Research Interests: Molecular and synthetic biology applications towards optimizing microbial pathways & synthesis of value added chemicals Bioseparations.

Recognized Research guide for M Tech. Bioprocess Technology

Total Research Publications- International: 4

Dr. Shamlan M. S. Reshamwala

B.Sc. Microbiology & Biochemistry, M.Sc. Biochemistry, Ph.D. Molecular Biology

Assistant Professor

Subject Taught: Bioinformatics and Statistical Methods, Recombinant DNA Technology, Patents and IPR, Design and Analysis of Experiments

Research Interests: Over expression & secretion of recombinant proteins, Enzyme engineering for improved catalysis and robustness, Utilization of cheap feedstock's biosynthesis of transportation fuels and fine chemicals

Total Research Publications- International: 5

Patents (granted in last 5 years): 3

Dr. Pamela Jha

BSc.(Microbiology), MSc. by research (Life Sciences), Ph.D. (Biotechnology)

Research Associate-III

Subjects Taught: Environmental sciences, biochemistry, cell biology

Research Interests: Plant biotechnology, animal biotechnology, environmental biotechnology

Recognized Research guide for M Tech. Bioprocess Technology

Guided students: Ph.D. Nil

Masters: Nil

Total Research Publications- National: Nil

International: 5

Dr. Sanjeev K. Chandrayan

Ph.D

DBT Overseas Energy Biosciences Fellow

Subjects Taught: Microbiology & Biochemistry

Research Interests: Thermophiles and Thermozymes for Bioprocessing, Enzyme Discovery, Production and Engineering, Metabolic Engineering of Extreme microbes for Fuels and Chemicals

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

Guided students: Ph.D. 2 (Ongoing) **Masters:** 2

Total Research Publications- International: 22

Patents (granted in last 5 years): 1

Dr. Aruna Goenka Agrawal

B.Sc. in Industrial Microbiology, M.Sc. Biotechnology, Ph.D. in Biotechnology

Research Scientist

Subject Taught: General Microbiology

Research Interests: Anaerobic Microbiology & Fermentation

Recognized Research guide for M Tech. Bioprocess Technology

Masters: 2

The Intellectual Property Management and Technology Commercialization Unit

The Intellectual Property Management and Technology Commercialisation Unit (IPM-TC Unit), was established in the year 2010 at the DBT-ICT Centre for Energy Biosciences (DBT-Centre), through a BIRAC-DBT funded grant.

The IPM-TC Unit is involved in the following activities:

- Identifying and tapping potential patentable research work of DBT-Centre
- Technology protection in India and abroad through patent filing
- IP management with regards to technology transfer
- Drafting and execution of various agreements for the Centre with its industry, government and academic partners
- IP consultation and services in biological and chemical sciences

Dr. Pooja Joshi

B.Sc. Medical, M.Sc. Biosciences, Ph.D Plant Biotechnology

Research Scientist

Subject Taught: Patents & IPR

Research Interests: Plant Biotechnology, Intellectual Property Rights & Policy, Patent search and analysis, patent drafting and prosecution

Total Research Publications-

National: 1, **International:** 3

Mr. Sandip Kale

M.Sc. (Organic Chemistry) & Post Graduate Diploma in Patent Law

Research Associate-III

Research Interests: Intellectual Property Rights & Policy, Patent search and analysis, patent drafting, filing and prosecution

Dr. Manju Bishan Sharma

B.Sc. Medical, M.Sc. Microbiology, Ph.D Microbiology

Assistant Professor

Research Interests: Microbial Diversity, Molecular Biology, Metagenomics, Carbohydrate Binding Molecules, Glycoside Hydrolases, Protein Engineering

Total Research Publications :

National: 0, **International:** 6

Mr. Deepak Sarda

M.Tech. (Bioprocess Technology) & LLB,

Research Associate (IPM&TC Unit)

Total Research Publications :

National: 0, **International:** 1

Dr. Rajeshkumar N Vadgama

Ph.D. (Biotechnology)

M.Sc. (Biotechnology), B.Sc. (Biotechnology)

Research Scientist (DBT-ICT-CEB

Total Research Publications :

National: 02, **International:** 03

PROFESSOR M.M. SHARMA LIBRARY

HEAD: MRS. MADHAVI WADKAR

Mrs. Madhavi Wadkar
Senior Librarian
Professor M. M. Sharma Library
Tel: 91-22-3361 1126
library@ictmumbai.edu.in
mm.wadkar@ictmumbai.edu.in

2.5.16 ADJUNCT FACULTY

Dr. A. K. Kalkar
M.Sc. (Jabalpur, 1966), Ph.D. (Mumbai, 1972)
Adjunct Professor
Department of Physics
Research Interests : Polymer Physics, Polymer composite materials,Rheology of soft materials, PDLC

Dr. S. V. Panse
M.Sc. (Mumbai, 1969), Ph.D. (Mumbai, 1996)
Adjunct Professor
Department of Physics
Research Interests : Solar Thermal, CSP Technology

Dr. Bansi Lal
Ph.D (CDRI 1971), Post Doc. (USA)
Adjunct Professor
Department of Pharmaceutical Sciences and Technology

Research Interest: New Drug Discovery, Organic Synthesis

Dr. Ravindra Kishor Mariwala
Ph.D. (University of Delaware, USA, 1993)
Adjunct Professor
Department of Chemical Engineering

Miss. Malini Shah
Counselor
Phone: 91-22-3361 1351

2.5.2 Distinguished Alumnis of ICT

1990
PROF. M.M. SHARMA
B.Chem.Eng. 1958,
M.Sc. (Tech). Chem. Eng. 1960,
Former Director, UDCT,
Professor of Eminence,
Institute of Chemical Technology

1991
DR. R.A. MASHELKAR
B.Chem.Eng. 1966,
Ph.D. (Tech). Chem. Eng. 1969,
Former Director, NCL;
Former DG, CSIR;
Chancellor, Institute of Chemical Technology

1991
DR. A.V. RAMARAO
B.Sc. (Tech), (Pharma), 1960,
Founder and Managing Director,
Avra Laboratories,
Former Director, IICT, Hyderabad

1991
DR. H.N. SETHNA
B.Sc. (Tech), Chem. Eng. 1944,
Former Chairman,
Atomic Energy Commission

1992
DR. B.D. TILAK
B.Sc. (Tech.) 1939,
Ph.D. (Tech). Textile Chemistry 1943,
Former Director,
National Chemical Laboratory

1992
MR. D.M. TRIVEDI
B.Sc. (Tech) Textile Chemistry 1937,
Famous Textile Technologist

1993
MR. V.G. RAJADHYAKSHA
B.Sc. (Tech) Chem. Eng. 1944,
Former Chairman,
Hindustan Lever Limited

1994
MR. I.A. MODI
B.Sc. (Tech) Pharma 1949,
Managing Director,
Cadila Laboratories Ltd.

1994
DR. K.H. GHARDA
B.Sc. (Tech) 1950, M.Sc. (Tech)
Chem. Eng. 1950,
Chairman & Managing Director,
Gharda Industries Ltd.

1995
MR. C.V. GOGRI
B.Chem. Eng. 1969,
Chairman,
Aarti Industries Ltd.

1995
MR. R.V. GOGRI
B.Chem. Eng. 1981,
Managing Director,
Aarti Industries Ltd.

1996
MR. N.K. PAREKH
B.Sc. (Tech) Dyes 1961,
Vice Chairman,
Pidilite Industries Ltd.

1996
MR. M.B. PAREKH
B.Chem. Eng. 1968,
Managing Director,
Pidilite Industries Ltd.

1997
MR. N.S. SEKHSARIA
B.Chem. Eng. 1970,
Managing Director,
Gujarat Ambuja Cement Ltd.

1997
MR. B.S. RAJPUROHIT
B.Sc. (Tech) Plastics 1960,
Chairman & Managing Director,
Chemical Process Equipments Ltd.

1998
MR. P.R. RASTOGI
B.Sc. (Tech) 1966,
M.Sc. (Tech), Textile Chemistry 1968,
Managing Director, Clariant India Ltd.

1998
MR. U. SHEKHAR
B.Chem. Eng. 1976,
Chairman,
Galaxy Surfactants Ltd.

1998
MR. SUDHIR PATIL
B.Chem. Eng. 1976,
Director,
Galaxy Surfactants Ltd.

1999
MR. P.D. KAMAT
M.Sc. (Tech) Oils, Fats & Waxes 1971,
Director, Fine Organics Ltd.

1999
MR. J.R. VYAS
B.Sc. (Tech) Pharma 1974,
Managing Director,
Dishman Pharmaceuticals & Chemicals Ltd.

1999
MR. KISHORE V. MARIWALA
B.Chem. Eng. 1957,
Director, Hindustan Polyamides and
Fibers Ltd.

2000
MR. J.R. SHAH
M.Sc. (Tech) Plastics 1956,
Director ,
Jayvee Organics & Polymers Pvt. Ltd.

2000
DR. D.S. PATEL
M.Sc. Organic Chemistry 1979,
Managing Director,
Themis Chemicals Ltd.

2000
MR. R.H. MEHRA
B.Sc. (Tech), M.Sc. (Tech) Textile
Chemistry 1956,
Founder,
Auxichem Pvt. Ltd.

2000
MR. Z.F. LASHKARI
B.Sc. (Tech) Oils, Fats & Waxes 1956,
Founder President,
Yezper Consultants

2001
MR. C.J. BHUMKAR
M.Sc. (Tech) Plastics 1959,
Founder,
Soujanya Enterprises

2001
PROF. K.D. MUKHERJEE
M.Sc. (Tech) Oils, Fats & Waxes 1961,
Professor, Institute for Biochemistry &
Technology of Lipids
H.P. Kaufmann-Institute

2001
DR. R.Y. MANTRI
Ph.D. Chemistry 1974,
Chairman and Managing Director,
Beeta Chemicals

2002
PROF. E.H. DARUWALLA
B.Sc. (Tech) Textile Chemistry 1942,
Former Director,
UDCT

2002
DR. N.V. BRINGI
Ph.D. Chemistry 1955,
Chief Scientist,
Hindustan Lever Research Centre

2002
DR. V.D. SHAH
B. Chem. Eng. 1956,
Executive Chairman,
Chembond Chemicals Ltd.

2003
MR. R.A. BAKSHI
B. Chem. Eng. 1956,
Former Director,
Indian Organic Chemicals Ltd.

2003
DR. HAREN S. GANDHI
B. Chem. Eng. 1963,
Ford Technical Fellow and Manager of
Chemical Engineering Department, Ford
Motor Corporation, USA

2003
DR. B.S. JOSHI
Ph.D. (Tech). Dyes 1951,
Research Scientist at the Institute for
Natural Products Research,
University of Georgia, Athens, USA

2003
MR. P.M. PATIL
B. Chem. Eng. 1969,
Managing Director,
Aarti Drugs Ltd.

2004
PROF. A.P. KUDCHADKER
B.Sc. (Tech) Oils, Fats, Waxes 1958,
Former Deputy Director,
Indian Institute of Technology, Bombay

2004
MR. O.P. MALHOTRA
B. Chem. Eng. 1956,
Director,
Philips Carbon Black Ltd.

2004
DR. V. SRINIVASAN
B.Sc. (Tech), Chem. Eng. 1951,
Indian Administrative Services,
Government of Maharashtra

2005
MR. R.T. BANDODKAR
B. Chem. Eng. 1962,
Managing Director,
Hindustan Monomers Pvt. Ltd.

2005
MR. V.Y. DIVEKAR
B.Sc. (Tech), Chem. Eng. 1946,
Technical Director,
Indian Organic Chemicals Ltd.

2005
MR. A.E. LADHABHOY
M.Sc. (Tech) Plastics 1956,
Chief Executive,
Plastiblends India Ltd.

2005
DR. M.V. NIMKAR
B.Sc. (Tech) Textile Chemistry 1945,
Founder, Texanlab

2005
MR. K.L. RATHI
B.Sc. (Tech) Dyes 1961,
Executive Chairman,
Sudarshan Chemical Industries Ltd.

2006
MR. N.V. BHAGWAT
B. Chem.Eng. 1972,
Chairman,
Quality Industries

2006
PROF. S.B. CHANDALIA
B. Chem. Eng. 1960, M.Sc. (Tech) 1962,
Ph.D. (Tech) Chemical Engineering 1967,
Former Director, UDCT

2006
MR. MANOJ H. MODI
B.Chem.Eng. 1979,
Senior Executive,
Reliance Industries Limited

2006
PROF. G.D. YADAV
B.Chem. Eng. 1974,
Ph.D. (Tech) Chemical Engineering 1980,
Vice Chancellor, Institute of Chemical Technology

2007
PROF. P.R. KULKARNI
B.Sc. (Tech), Foods 1966,
Professor and Head Dept. of Food Technology
Institute of Chemical Technology

2007
MR. N.R. MESWANI
B.Chem.Eng. 1989,
Executive Director,
Reliance Industries Ltd.

2007
MR. Y.M. KOTHARI
B.Chem.Eng. 1971,
Managing Director
Alkyl Amines Chemicals

2008
MR. S.M. MOKASHI
B.Chem.Eng. 1958,
Managing Director,
Xytel India

2008
DR. A.B. PANDIT
Ph.D. (Tech) Chemical Engineering 1984,
Professor,
Institute of Chemical Technology

2008
MR. BIPIN M. SHAH
B.Chem.Engg. 1966,
Former President,
Plastindia Foundation

2008
MR. D. G. UDAS
B.Sc. (Tech) Dyes 1972,
Founder,
Speciality Molecules Pvt. Ltd.

2009
DR. RAMESH C. AWASTHI
Ph.D. (Tech) Chemical Engineering 1982,
Founder,
Masum NGO

2009
MR. VIJAY H. JADHAV
B.Chem.Eng. 1989,
I.A.S.
Director, Indian Film Archive

2009
MR. SATISH M. JOSHI
B.Chem.Eng. 1973,
Managiang Director,
SBI Cap Securities Ltd.

2009
MR. D. SRINIVAS
B.Sc. (Tech) Dyes 1984,
Singer

2009
DR. PRAKASH D. TRIVEDI
M.Sc. 1970,
Managing Director,
Solvay Specialities India.

2009
PROF. M.R. BAICHWAL
B.Sc. (Tech), Ph.D. (Tech), Pharma. 1957,
Former Director,
C U Shah College of Pharmacy,
SNDT University

2009
PROF. S.V. SUNTHANKAR
B.Sc. (Tech) Chem. Eng. 1941; Ph.D. (Tech),
Former Professor of Dyestuff Technology,
Institute of Chemical Techology

2009
MR. D.K. DESHPANDE
B.Chem. Eng. 1976,
Executive Director,
Hindustan Petroleum Corporation Ltd.

2009
MR. A.R. BOOB
B.Chem. Eng. 1974,
Founder Director,
Clean Science and Technology Pvt. Ltd.

2009
MR. BHARAT KAMDAR
B. Chem. Eng. 1974,
President,
Ingenious Inc.

2010
DR. R.B. MITRA
Ph.D. (Tech) Dyesstuff 1956,
Former Director,
Central Leather Research Institute

2010
PROF. R.P. IYER
B.Sc. (Tech) 1973, M.Sc. (Tech) Pharma. 1975,
Chief Scientific Officer
Spring Bank Pharmaceuticals Inc.

2010
MR. N.V. DHEKNE
B.Chem. Eng. 1979,
Director,
Hercules Asia Pacific- Aqualon Division

2010
MR. A.A. PANJWANI
B.Chem. Eng. 1972,
Bharuch Enviro Infrastructure Ltd.

2010
MR. HARSHAVARDHAN V. BHAWE
B.Sc. (Tech) Textile 1980,
Managing Director
Berg+Schmidt Asia Pacific Pvt Ltd.

2010
MR. ASHVIN J. DESAI
B.Chem. Eng. 1974,
Managing Director,
Anupam Rasayan Ltd.

2010
DR. DEEPA V. BHAJEKAR
Ph.D.. Industrial Microbiology 1992,
Managing Director,
Microchem Laboratory Pvt. Ltd.

2011
DR. ASHOK B. AMIN
B.Chem. Eng. 1961,
Chairman & Managing Director,
Aron Universal Limited

2011
MR. LALCHAND N. GANDHI
B.Sc.(Tech) Textile Chemistry 1957,
Chairman and Managing Director,
L.N. Chemical Industries

2011
MR. MADHUKAR A. NAIK
B.Chem.Eng. 1976,
Managing Director,
Aquachem Enviro Engineers Pvt. Ltd.

2011
DR. KISHORE M. SHAH
B.Sc. (Tech) Dyestuff 1961,
Chairman,
Sauradip Chemical Industries Pvt. Ltd.

2011
DR. N.M. SARAF
Ph.D.. Textile Chemistry 1980,
Technical and Sales Director,
Sarex Chemicals Ltd.

2011
MR. ANAND K. APTE
B.Chem.Eng. 1972,
Managing Director,
Merck India Ltd.

2011
MR. BHARAT I. BHATT
B.Chem. Eng. 1968,
Chairman,
Avishkar Consultancy Services

2011
MR. S.R. PARANJAPE
B.Chem. Eng. 1955,
Former Director,
Indira Gandhi Center for Atomic Research

2011
DR. VIVEK V. RANADE
B.Chem. Eng. 1984,
Ph.D. (Tech) Chem. Eng. 1988,
Deputy Director, CEEP,
National Chemical Laboratory

2011
DR. AJIT V. SAPRE
B.Chem. Eng. 1976,
President,
Reliance Technology Group, RIL

2011
DR. VINAY C. VORA
B.Sc. (Tech) Pharma. 1947,
Former Director,
Institute of Microbial Technology,
Chandigarh

2011
MR. SHRIKANT DESHPANDE
B.Chem. Eng. 1984,
Secretary (Account & Treasury), I.A.S.
Finance Department, Govt. of Maharashtra

2011
MR. U.N. NIRGUDKAR
B.Chem.Eng. 1975,
Managing Director,
Alfa Imaging Systems Pvt. Ltd.

2011
MR. M.N. CHAINI
B.Chem. Eng. 1964,
Former President,
Maharashtra Economic
Development Council

2012
MR. L R CHADHA
B.Sc. (Tech) Foods 1965,
Managing Director,
Goodwill Chemical Industries

2012
MR. Y H JHAVERI
B.Sc. (Tech) Oils 1965,
Founder,
Vasu Chemicals Ltd.

2012
MR. V D SANGHAVI
B.Chem Eng. 1964,
Managing Director,
Aarvi Encon Pvt. Ltd.

2012
DR. NAVNIT H SHAH
B.Sc. (Tech) Pharma. 1970,
Research Leader,
Pharmaceutical Research and Development,
Hoffmann, La Roche, Inc.

2012
DR. KISHORE UDIPI
M.Sc. (Tech) Paint Technology 1971,
Chairman,
Biopolymer Design

2012
PROF. ROSHAN SHISHOO
B.Sc. (Tech) Textiles 1960,
Director,
Shishoo Consulting

2012
PROF. C J K HENRY
B.Sc. (Tech) Foods 1977,
Director, Functional Food Center and
Professor of Nutrition,
Oxford Brookes University, UK

2012
MR. N J DESHMUKH
M.Pharma. 1989,
Founding Member, Head of
Private EquityChief Executive Officer,
Kotak Private Equity

2012
MR. S P MALI
B.Chem Eng. 1975,
Technical Director,
Arch Pharma

2012
MR. P P SHAH
B.Chem Eng. 1977,
Regional Director,
UOP

2012
MR. A D INGROLE
B.Chem Eng. 1977,
Technical Director,
Mewah Oils, Malaysia

2013
MR. EDWARD MENEZES
B.Sc. (Tech.) Textiles 1984,
Director,
Rossari Biotech

2013
MR. SAVINDER S. SARNA
B.Sc. (Tech.) Dyes 1978,
Chairman & Managing Director,
Sarana Chemicals Pvt. Ltd.

2013
DR. ASHISH LELE
B.Chem. Engg. 1988,
Chief Scientist,
National Chemical Laboratory

2013
MR. JAGDEEP S. KOCHAR
Executive Director,
Gujrat Narmada Valley,
Fertilizers & Chemicals Ltd.

2013
PROF. SAMIR S. MITRAGOTRI
B.Chem. Engg. 1992,
Professor, University of California,
Santa Barbara

2013
DR. RAJ SHAH
B.Chem. Engg. 1991,
Director,
Kochier Instrument Company

2014
MR. RAKESH BAMZAI
B.Sc.(Tech) (Food) 1989
CEO & Managing Director,
Milan Laboratories Ltd., Bangaluru

2014
PROF. DHIREN R. THAKKER
B.Pharm, 1970
Distinguished Professor in Pharmaceutical Sciences and Associate Dean for Entrepreneurial Development & Global Engagement,
University of North Carolina (USA)

2014
PROF. ASHOK S. SANGHANI
B.Chem. Engg. (1976)
Professor, Department of Biomedical & Chemical Engineering,
Syracuse University (USA)

2014
SHYAM SUNDER BANG
M. Chem. Engg. (1973)
Executive Director,
Jubilant Life Seiences Ltd. &
Managing Director,
Jubilant InfrastructureLtd. (Noida)

2014
DR. KSMS RAGHAVARAO
Ph.D. (Tech.), 1987
Chief Scientist & Dy. Director,
CSIR Central Food Technology
Research Institute, Mysore

2014
PROF. SHEKHAR S. GARDE
B.Chem. Eng. 1992,
Dean, Chemical and Biological Engineering,
Rensselaer Polytechnic Institute,
New York (USA)

2014
MR. SANJAY S. GAIKWAD
B.Chem. Eng. 1987,
Founder and Managing Director,
Valuable Group and UFO Moviez

2014
MR. VAIBHAV B. TIDKE
B.Chem. Engg. 2008, M.Chem. Engg. 2011
(Registered for Ph.D. Tech in ICT)
Founder & President,
Science for Society

2014
MR. SUDHIR D. PILGAONKAR
B.Sc. (Tech) - Pharma, 1976,
Founder Director,
and Chief Commercial Officer,
Rubicon Research Pvt. Ltd.

2014
MRS. PRATIBHA S. PILGAONKAR
B.Sc. (Tech) - Pharma, 1976,
Founder Director,
and Chief Commercial Officer,
Rubicon Research Pvt. Ltd.

2014
MR. SUNIL M. VANARSE
B. Chem Engg. 1968,
Chief Promoter, Pune IT Park

2014
MR. SIDDHARTH A. SIKCHI
B.Sc. (Tech.) - Dyes, 2006,
Clean Science Technologies Ltd.

2014
MR. VIBHU M. SHARMA
B.Chem. Eng. 1996,
Chairman and CEO,
Ingenious Inc.

2014
MRS. MAHARUKH T. RUSTOMJEE
B. Pharm., 1982, M. Pharm., 1984,
Founder Director
and Chief Operating Officer
Rubicon Research Pvt. Ltd.

2014
MR. VINOD K. MEHRA
B.Sc. (Tech) - PPV, 1972,
Anupam Colours Pvt. Ltd.

2014
MR. PRASAD P. MANTRI
B. Chem Engg., 2000,
Mantri Metallics Pvt. Ltd.

2014
MR. ASHISH O. MANTRI
B. Chem. Engg., 1997,
Abhay Cotex Pvt. Ltd. (APCL)
Jalna

2014
MR. CHAITANYA S. JOSHI
B.Sc. (Tech) - Textile Chemistry, 1993
President and CEO,
C Tech Corporation & C Tech Group

2014
DR. SAIDAS M. RANADE
B. Chem. Engg. (1980)
Manager - New Developments,
GP Strategies Corporation (USA)

2014
MR. ULHAS M. DEWAL
B. Chem. Engg., 1977,
M. Chem., Engg., 1979,
Founder and Managing Director,
Ashu Group of Companies

2015
MS. SUSAN JOSI
B.Pharm in 1982 and
M.Pharm in 1985
Managing Partner, Sorento Healthcare

2015
DR. G.V.G. RAO
B.Sc. (Tech.) in Textile Chemistry in 1987,
M.Sc. (Tech.) in Textile Chemistry in 1989
President - Colours Division Atul Limited,
Managing Director - Rudolf Atul
Chemicals Limited
Director-in-charge – Atul Inc., USA

2015
DR. SHIRISH K. SANKHE
B.Chem. Engg. 1984
Senior Partner and Director, McKinsey

2015
DR. RAM W. SABNIS
Senior Patent Agent: Georgia-Pacific LLC,
Atlanta, GA (USA)

2015
PROFESSOR PALGHAT RAMACHANDRAN,
Professor of Chemical Engineering,
Washington University,
St. Louis, MO (USA)

2015
PROFESSOR ARVIND M. LALI,
Professor of Chemical Engineering & Head,
DBT-ICT Centre for Energy Biosciences, ICT
(Mumbai)

2015
PROFESSOR SMITA S. LELE,
Registrar and Professor of
Biochemical Engineering,
ICT (Mumbai)

2015
SHRI SUNIL RAMANAND,
Joint Commissioner of Police,
Pune City (Pune)

2.5.17 ENDOWMENT POSITION: DISTINGUISHED VISITING FELLOWS, PROFESSORS AND LECTURERS (2017-2018)

GENERAL

- Professor B.D. Tilak Visiting Fellowships.
- Golden Jubilee Visiting Fellowships.
- Dr. Balwant S. Joshi Distinguished Visiting Professorship in Chemical Engineering Chemical Technology / Applied Chemistry "
- Shri. B. S. Rajpurohit Visiting Faculty and Oration Endowment
- Shri D. M. Trivedi Lecture in Green Chemistry and Technology Endowment
- Annual Oration in the name of the Late Professor W. B. Achwal Endowment

Department of Chemical Engineering

- Dr. G.P. Kane Visiting Professorship in Chemical Engineering.
- The Dow Professor M.M. Sharma Distinguished Visiting Professorship in Chemical Engineering.
- Shri V.V. Mariwala Visiting Professorship in Chemical Engineering
- Shri G.M. (alias Dada) Abhyankar Memorial Distinguished Fellowship in Chemical Engineering
- Professor R.A. Rajadhyaksha Memorial Lecture series.
- Shrimati Kusumben and Shri Mathradas Kothari Visiting Professorship in Chemical Engineering
- K. J. Somaiya Visiting Professor of Chemical Engineering Endowment
- Professor Arun S. Mujumdar Visiting Fellowship

Department of Dyestuff Technology

- K.H. Kabbur Memorial Silver Jubilee Lectureship.
- Professor K. Venkatraman Lectureship.
- Pidilite Industries Ltd. Visiting fellow in Dyestuff Science & Technology.

  Dr. KKG Menon Memorial Lecture Endowment

Department of Fibres and Textile Processing Technology

- Professor G.M. Nabar Endowment Lectureship.
- L.N. Chemicals ICT Diamond Jubilee Visiting Fellow
- Class of 1966 Visiting Fellowship.

Department of Food Engineering and Technology

- Professor A. Sreenivasan Felicitation Lectureship.
- Marico Industries Visiting Fellowship
- ICT - Lupin Visiting Fellowship for Bioprocess Technology

Department of Oils, Oleochemicals and Surfactants Technology

- Professor J.G. Kane Visiting Professorship in Chemical Technology
- Professor J.G. Kane Memorial Lectureship

Department of Pharmaceutical Sciences and Technology

- CIPLA Distinguished Visiting Fellowship in Pharmaceutical Sciences
- Themis Medicare - ICT Diamond Jubilee Distinguished Fellowship in Pharmaceutical Sciences
- Professor (Mrs.) Malati R. Baichwal Visiting Fellowship in Pharmaceutical Science and Technology
- AAIPS- Dr. R. S. Baichwal Pharmaceutical Seminar
- Dr. S.K. Pradhan Endowment
- Professor V.M. Kulkarni Endowment Fund in Pharmaceutical Science and Technology

Department of Polymer Engineering and Technology and Department of Surface Coating Technology

- Shri K. S. S. Raghavan - Chemical Weekly Visiting Professorship in Polymer Science and Technology
- Indian Plastics Institute (IPI)-ICT Diamond Jubilee Visiting Fellowship in Polymer Processing
- Chemimpex Rastogi-ICT Diamond Jubilee Visiting Fellowship in Surface Coatings.
- Synpol-ICT Diamond Jubilee Distinguished Visiting Fellow in Science & Technology of Pigment
- Tipco-ICT Diamond Jubilee Distinguished Visiting Fellow in Thermosets
- Jayvee Organics & Polymers(P)Ltd. Visiting Fellowship in Polymer Additives and Compounding
- Parmanand F. Parikh Endowment
- Shri B.S. Rajpurohit Visiting Professorship in Polymer Science and Technology Endowment
- Sauradip Chemical Industries Pvt. Ltd. Visiting Fellowship

Department of Chemistry

- Dai-Ichi Karkaria Ltd. Visiting Fellowship
- The Dharamsi Morarji Chemical Co. Visiting Fellowship in Chemistry
- The (Late) Shri. G.D.Gokhale Endowment Lectureship
- Spinco-Biotech-RamanathanLectureship

Department of Physics

- Dr. Mooljibhai Shivabhai Patel Trust Visiting Fellowship in Polymer Physics

2.6 PROFILES OF DEPARTMENTS AND CENTRES OF EXCELLENCE

2.6.1 Department of Chemical Engineering [CHEM ENGG]

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 engineer 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.

2.6.1.1 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 Engneering profession which cuts across serveral chartered and unchartered territories of human civilization. Thus Chemical engineering is practised from nano scale to mega scale, from food / pharma to nucler engineering from mineral/ mining to Silicon (high purity grade). The subjects of energy, enviroment 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).

2.6.1.2 Modern Chemical Engineering

The modern discipline of chemical engineering encompasses much more than just process 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 fibers, 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.

2.6.1.3 Borderless and Versatile Engineering Profession

Over the last 25 years, 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, 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 R&D in the country.

2.6.1.4 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 2004-2009 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. Collaborative Academic Programs have been initiated with international institutes

2.6.1.5 Connectivity with Industry

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 degree programme in Chemical Engineering with Michigan State Universtiy, USA is the highlight of this year.

2.6.1.6 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. 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 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.

2.6.1.7 Employment Opportunities

Our graduates, number 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. 14.00 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.

2.6.1.8 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 Hydrotropy, Organic Chemical Processes Development, Biotechnology and Downstream Processing, Adsorptive and Chromatographic Separations, Green Technology, Cavitation Phenomena, Sonochemistry, Membrane Based Separation Processes, Bio-Technology and Bio-medicines, Environmental Protection and Safety, Nanoscience and Nano-Technology, Green 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

2.6.1.9 Laboratory and Research Facilities

All Chemical Engineering laboratories and faculty offices have been remodeled during past 3 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.

2.6.1.10 Fellowships

Fifteen Ph.D. fellowships are offered every year under UGC CAS in Chemical Engineering; besides there are 20 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 the UGC fellowships are currently Rs 14000 p.m. plus 30% HRA, which are likely to be revised. For non-GATE students, they are Rs. 10,000 p.m. only.

There is a unique fellowship instituted by Dow Chemicals for Ph.D. (Tech.) in Chemical Engineering for a lady student at a value of Rs 25,000 p.m. with a contingency grant of Rs 1.00 lakh per year, for a period of 4 years. Thus, there will be 4 such lady students at a time. The candidate is required to participate in 10 hours of undergraduate lab./teaching per week. The grand purpose of this fellowship to induct woman chemical engineering faculty in Indian universities and institutes and it was started in 2009. The Centre for Green Technology, which is established in joint collaboration with University of Mumbai also offers 15 UGC SAP Ph.D. fellowships for conducting research, some of which are available under the guidance of concerned Chemical Engineering faculty. Some fellowships will also be offered during 2010-11 under the Centre for Nanomaterials and Nanotechnology of University of Mumbai to work with faculty of chemical engineering.

Apart from Master of Chemical Engineering programme, the department also participates in two interdisciplinary M. Tech. courses - Perfume & 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) work under the guidance of Chemical Engineering faculty.

2.6.1.11 Interdisciplinary and Cross Disciplinary Programmes

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

2.6.1.12 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.

2.6.2 Department of Dyestuff Technology [Dyes]

VISION :

- The department aspires to be one of the world's top color chemistry departments by 2020. 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

MISSION :

- To build world class Programmes of excellence in education and research in the specialized area of Dyestuff Chemistry and Technology for the benefit of society through problem

All chemical technology programmes are designed to lay a sound foundation in basic sciences and chemical engineering such as separation processes, chemical reaction engineering, transport phenomena, chemical engineering economics, instrumentation and process control, The basic sciences syllabi is the same for both chemical engineering and chemical technology courses, including mathematics

and computation. As a consequence, B.Tech. students from these 7 branches of chemical technology are treated on par with chemical engineering graduates for higher studies in western universities.

Department of Dyestuff Technology is unique in India and provides UG and PG degrees in Intermediates and Dyestuff Technology. The Department was born out of the research interests and tradition of ICT, particularly, the world-class research initiated by Prof K. Venkataraman, the first Indian Director of ICT, whose treatises on dyestuff chemistry are reference books translated into foreign languages. Leading organic chemical technologists and industrialists have been alumni of this Department. Contrary to popular belief, there is a lot of excitement in courses offered by this Department including new eco-friendly dyestuffs, laser dyes, and biotechnological aspects of dyes, nanotechnology and green chemistry. This Department has a tradition of creating several first generation entrepreneurs, and many dyestuff companies have origins in research conducted in this Department. Since this course combines high level chemistry with technology, and downstream processing, graduates are accepted in other industries including pharmaceuticals and fine chemicals. This Department is also a part of the UGC Centre for Advanced Studies in Physico-chemical Aspects of Textiles, Fibres, Dyes and Polymers, which was the first Centre in ICT, established in 1963. Three fellowships are allotted under this Centre for Ph.D. including those under research schemes.

The B. Tech. (Dyestuff) course is an organic chemistry accented course. The main focus is on the training towards the laboratory as well as large-scale synthesis of colourants (dyes and pigments). Colourants can be prepared either through synthesis or from natural sources. The synthetic colourants are prepared through multi-step synthesis, which requires insight into synthetic organic chemistry. The colourants thus prepared are used for textiles, foods pharmaceuticals, and for hi-tech applications. The education provided to undergraduate students is a perfect blend of chemistry and engineering. Research at this Department is focused on many high technology areas such as lasers, ink jet printing, optical recording devices, biosensors, immunochemistry, green chemistry, perfumery and flavour technology, and high performance pigments for various end uses. There is also a strong emphasis on ab initio computation driven molecular modeling and design of functional fluorescent colorants.

2.6.3 Department of Fibres & Textile Processing Technology [Textile]

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.

Almost 80 years ago, in 1933,when the Indian Textile Industry was progressing in-full swing in cities like Mumbai, and Ahmedabad, other industries were not even born. It was the time Sir VitthalChandavarkar was the Vice Chancellor of University of Mumbai and also the Chairman of Textile Mill Owners` Association. Along with his industrialist friends, he donated Rs. 200 lakhs for creation of an educational

and res earch institute catering to the need of Textile industry and that's how this UDCT, then called as University Department of Chemical Technology, under the wings of Mumbai University, was established. Initially, UDCT hosted only two disciplines: Textile Chemistry and Chemical Engineering, offering a two-year B.Sc.(Tech.) degree course post B.Sc. chemistry. A number of new disciplines of chemical technology, pharmacy, and biotechnology were opened up over the years as per the need of the nation and all these various technological disciplines have played a paramount role in building the respective industry in the country. Most of the Professional Bodies of the Technocrats of these disciplines, even today operate from the portals of excellence of UDCT. Now, passing through many transitions, the UDCT is known as Institute of Chemical Technology (ICT), which is the Deemed University under section 3 of UGC Act 1956, and also holds the status of being the first Elite Institute & Centre of Excellence conferred by the Govt. of Maharashtra.

Thus, the Department of Fibres and Textile Processing Technology (FTPT), formerly known as Textile Chemistry Section, has the unique distinction of being the firstdisciplinewith which this institution started. The Department conducts B.Tech. course with an intake capacity of 34, which is highest among all the B.Tech. courses of ICT. The course involves study of chemistry and manufacture of Fibres, their chemical processing such as bleaching, dyeing, printing and finishing. It further encompasses the study of chemistry as well as application of various kinds of chemicals, dyes, thickeners, and finishing auxiliaries which are used in chemical processing of textile fabrics and garments. It also involves knowledge of green chemistry, biotechnology and nanotechnology with special reference to chemical processing of textiles.

The post graduate courses of M. Tech. in Fibres & Textile Processing Technology both, Regular- 2 years and Sponsored 3- Years, M.Sc. in Textile Chemistry, Ph.D. (Tech.) in Fibres & Textile Processing Technology, Ph.D. (Sci.) in Textile Chemistry and Ph.D. (Sci.) in Chemistry attract a large number of students and so far more than 2250 graduates and 500 post graduates have passed out from this Department. The faculty of the Department has good interaction with the industry. Several industries and institutions have signed MOUs for research collaboration with us. Under these MOUs we offer Ph.D. and M. Tech courses to their scientists. A number of industries have been benefited by the technical advice given by the faculty. 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 by this interaction.The Department is recognized as Centre of Advanced studies in "Physicochemical aspects of Textile, Fibres, Polymers and Dyes" presently in Phase VII, since 1962. It was also recognised under the MODROB scheme of UGC. The Department is has been funded by TEQIP.In the month of December 2012, the Department got recognised as DST-FIST funded Department for the second time. The department also played an important role in evaluating TUFS under Ministry of Textiles, GOI. Also, the Department organizes guest lectures by industry experts under different endowment programmes. An international conference 'Texsummit' was organized by the Department recently, in December 2012. The faculty is engaged in high quality fundamental as well as applied research and they have got over 1000 publications in Indian and International journals as well as reputed fellowships to the credit from recognized institutions in India and abroad.

After the globalization of the markets with border-less trade, textile manufacturing activities are shifted to country like India which is fast developing economy. Textile being one of the fundamental needs of human being, it is a mother industry, next to only agriculture sector, involving over 60 million people. Today, the business is fast growing and will soon touch around US$ 100 Billion. However, in the border-less trade many multinational brands are competing and the critical area of chemical processing of textile fabrics and garments requires tremendous amount of consolidation in terms of well trained manpower which can keep pace with latest technological operations and demand of stringent quality parameters in shortest delivery time giving competitive edge to the manufacturers. There is a huge shortage of Textile Processing

graduates in the core textile industry as well as in multinational and reputed Indian manufacturers of dyes, chemical and auxiliaries. Thus the scope for graduates and postgraduates of this Department is enormous and such a demand with every passing day will only be rising given that consumption of apparels and technical textiles in India and abroad is increasing at galloping rate.

2.6.4 Department of Food Engineering and Technology [Foods]

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 Eng. And Tech.) 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 UGC has recognized the Department as Centre of Advanced Studies in Food Engineering and Technology, under which 15 SAP fellowships are awarded per year. A new course assisted by DBT in Food Biotechnology has been in place since 2009-10 with 10 M. Tech. GATE fellowships. The Department also participates in two interdisciplinary M. Tech. courses - Perfumery & Flavour Technology, and Bioprocess Technology.

2.6.5 Department of Oils, Oleochemicals and Surfactants Technology [Oils]

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.

2.6.5.1 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.

This Department offers 2 Ph.D. fellowships per year under NON-SAP status by UGC. It also participates in M. Tech. in Perfumery and Flavour Technology, Green Technology and Bio-Process Technology.

2.6.6 Department of Pharmaceutical Science and Technology [Pharma]

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 foundationin 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

Techonology). 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, under which 15 SAP fellowships are awarded per year. 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 Technolgy, M.Tech in Perfumery and flavour Technology and M.Tech in Green Technology.

2.6.7 Polymer and Surface Engineering [Polymer] [Coatings]

VISION :

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

MISSION :

- To Pursue world class Programs on Excellence in Education & Research in the area of Polymer & 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.

2.6.7.1 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.

2.6.7.2 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. It is well equipped and offers 5 Ph.D. fellowships under the UGC SAP meritorious fellowship scheme.

2.6.8 ICT-DAE Centre for Chemical Engineering Education and Research

2.6.8.1 Preamble:

The Institute of Chemical Technology (ICT) and the Department of Atomic Energy (DAE) signed a Memorandum of Agreement (MOA) in 2006 having far reaching benefits for Indian S and T, which was based on the excellent relation between these two organizations and successful completion of projects by ICT faculty of Chemical Engineering. The MOU covers the following activities.

(A) Instituting an interdisciplinary Ph.D. programme in Chemical Engineering.

(B) Undertaking R&D projects in the areas of common interests and related to nuclear fuel cycle and advanced technologies.

DAE Research Institutions, namely, Bhabha Atomic Research Centre (BARC) and Indira Gandhi Centre of Atomic Research (IGCAR) are premier multidisciplinary R&D organizations engaged in research with the

objective of generating knowledge and techniques for nuclear power production, advancement of science, use of radioisotopes in industry, health and agriculture as well as research in frontier areas of science and technology. BARC and IGCAR have multi-disciplinary groups of experts who have contributed to the development of processes and technologies related to thermal and fast nuclear reactors, fuel cycle and related areas. BARC and IGCAR have pursued research and development in chemical engineering in a rigorous way for many years in the areas defined by DAE's mission oriented programmes as well as projects of national interest. BARC and IGCAR support academic programmes within the DAE and also in the academic institutions and research centres in various parts of the country.

ICT is one of the foremost academic institutions in India, and has the necessary infrastructure in terms of trained manpower (including students) and a long tradition of research and development in Chemical Engineering and Chemical Technology. ICT has also had long and fruitful experience of working with BARC and other units of DAE on research projects related to Chemical Engineering and process technologies and have completed them meeting the high standards expected by DAE. On the national level, ICT is a major resource Institution in terms of technology development and fundamental research at the cutting age on the global scale. They have also entered into an MoU with Homi Bhabha National Institute (HBNI) for collaborating on academic programs especially suited to the requirements of DAE institutions.

In the Xth and XIth Five Year Plan, BARC and ICT had undertaken a joint research programme encompassing several DAE research projects in the Chemical Engineering field. Through the Virtual Centre, called, DAE-ICT Centre for Knowledge Based Engineering, BARC scientists and ICT faculty have collaborated and very successfully completed several projects. In view of the success of the collaborative programme through the Centre for Knowledge Based Engineering, BARC and IGCAR proposed to enlarge the scope of collaboration by establishing the DAE-ICT Centre for Chemical Engineering Education and Research that will synergise the strengths of both these organisations. On the one hand, ICT has proven track record in training high quality manpower and in conducting research in Chemical Engineering and technology, on the other hand BARC and IGCAR have demonstrated over decades their ability to conduct multi-disciplinary, mission oriented R&D leading to a large number of indigenous and innovative chemical engineering processes, equipment and instruments, and technologies.

DAE has to develop several innovative technologies to tackle the problems of efficient nuclear fuel utilisation in the second and third stages of nuclear power programme. This requires a pool of qualified, motivated and talented young research scientists with multidisciplinary expertise. The number of Ph.D. level chemical engineers is small in this country and the number of chemical engineers entering DAE is even less. Thus, the number of Ph.D. scholars working on energy related programmes needs to be increased. Further, these scientists need to have wider knowledge of both basic sciences and allied engineering subjects besides chemical engineering, which is essential for the development of innovative technologies. However, the present education system imparts expertise only in selected areas. To satisfy the need of greater number of Ph.D. scholars well versed in basic sciences and chemical engineering, DAE and ICT wish to take an initiative for imparting doctoral education in chemical engineering with multidisciplinary character.

2.6.8.2 Scope of Collaboration

1. To provide doctoral degrees to promising candidates with talent and aptitude for carrying out advanced research and development activities in science and technology.

2. To furnish a multidisciplinary, flexible and innovative Ph.D. research programme in Chemical Engineering with special emphasis on :

(a) Acquisition of proficiency in research, knowledge, data generation and analysis, mathematical modeling, 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.

3. To evolve a symbiotic relationship between the ICT and DAE Institutions in such a way that it enables the Collaborative Programme to grow and develop, and in turn ensures that research projects of relevance to the objectives of DAE research institutions are integrated with creative and innovative content.

4. To select students on the basis of an all-India test and subsequent interview jointly conducted by ICT and BARC/IGCAR.

5. To promote effective linkages on a continuing basis between ICT, BARC and IGCAR and the Industry for joint research projects and training programmes and other academic activities related to these Institutes. The expertise and experience so gained shall be shared with other Universities in the country at large.

6. To disseminate the new knowledge in the form of publications, theses, seminars and conferences.

2.6.8.3 Ph. D. Programme in Chemical Engineering

2.6.8.3.1 Induction of Students

It is proposed to introduce a Ph.D. programme with an initial intake of about 20 students per year, drawn from Chemical Engineering, Metallurgical and Mechanical Engineering disciplines at the Bachelors and Masters Levels, and also from Chemistry, Physics and Mathematics streams with Masters degree. The Masters Degree holders in Engineering will have to spend a minimum duration of 3 years, the Bachelors degree holder in Engineering 4 years and M.Sc. degree holder in science stream 5 years for earning the Ph.D. degree. The students will be selected on the basis of all India written test and interview conducted jointly by ICT and DAE.

2.6.8.3.2 Course Work, In-Plant Training and Research

a) Course Work

The proposed curriculum will have a fine balance of basic and engineering sciences. The curriculum will contain adequate fundamental and core courses to equip the students adequately to make them practising chemical engineers, as enumerated below. At the same time, they will have a background for starting independent research career.

2.6.8.3.3 Areas of teaching and research

(a) Chemical Engineering **(c) Bio-technology**

(b) Process Technology **(d) Materials Science &Technology**

2.6.8.3.4 Typical List of courses to be taken by the Post Graduates in Science

(a) Material and Energy Balance Computations

(b) Industrial and Engineering Chemistry

(c) Generation and Transmission of Power

(d) Electrical Engineering and Electronics

(e) Applied Mechanics and Strength of Materials.

(f) Momentum Transfer

(g) Heat Transfer

(h) Mass transfer

(i) Unit Operations

(j) Chemical Reaction Engineering

(k) Engineering Graphics

(l) Project Engineering Management and Economics

(m) Biochemical Engineering

(n) Advanced Separation Processes

(o) Process simulations

(p) Materials Processing and fabrication technology

(q) Nuclear Reactor Theory

(r) Nuclear Chemical Engineering

(s) Statistical Methods of Analysis

(t) Instrumental methods of analysis

(u) Nuclear chemistry

(v) Radiation chemistry

(w) Chemical Engineering Thermodynamics

(x) Process Hazard Analysis and Safety

2.6.8.3.5 Typical List of courses to be taken by the Engineering Graduates/ Post Graduates

(a) Quantum Mechanics

(b) Structure - Property Relationships

(c) Materials Physics and Chemistry

(d) Advanced Chemical Engineering Thermodynamics

(e) Nuclear Reactor Theory

(f) Nuclear Chemical Engineering

(g) Process simulation and optimization

(h) Transport phenomena

(i) Advanced Reactor Engineering

(j) Advanced Mass Transfer

(k) Statistical methods of analysis

(m) Nuclear chemistry

(n) Radiation chemistry

(o) Process Hazard Analysis and Safety

2.6.8.3.6 In-Plant Training

All the students before starting Ph.D. research will undergo in plant training for a period of one to three months in the process industry. Some students will undergo training in DAE.

2.6.8.3.7 Research Projects

The Ph.D. scholars will take up research projects primarily defined by BARC and IGCAR. However, there will be a certain degree of flexibility for selecting research projects outside the areas of relevance to DAE. To take advantage of the excellent laboratory and library facilities at the DAE institutions, the faculty and students will be provided access to conduct experiments and use of the library and computational facilities at the DAE institutions.

2.6.8.4 COLLABORATION WITH HOMI BHABHA NATIONAL INSTITUTE (HBNI)

2.6.8.4.1Preamble

There was a dire need to recognize the common interests of ICT and HBNI constituent institutions (CIs) in pursuit of knowledge through doctoral and master's programmes. There is a possibility of the candidates admitted in some of the CIs of HBNI may study at the ICT and carry out the projects under the joint supervision of the faculty members from the ICT and the scientists and faculty members from the CIs of HBNI. It will be mutually beneficial to have lectures by the ICT faculty members at the HBNI, and by the HBNI faculty members and scientists at the CIs of HBNI at the ICT. For the purpose of academic programmes, the following units of DAE are the Constituent Institutions (CIs) of the HBNI are included:

1. Bhabha Atomic Research Centre (BARC), Mumbai
2. Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam
3. Raja Ramanna Centre for Advanced Technology (RRCAT), Indore
4. Variable Energy Cyclotron Centre (VECC), Kolkata
5. Saha Institute of Nuclear Physics (SINP), Kolkata
6. Institute of Plasma Research (IPR), Gandhinagar
7. Institute of Physics (IOP), Bhubaneshwar
8. Harish-Chandra Research Institute (HRI), Allahabad
9. Tata Memorial Centre (TMC), Mumbai
10. Institute of Mathematical Sciences (IMSc), Chennai

The two Institutes shall recognize each other's research guides in the disciplines of common interests. The identified faculty members of each Institute may function as Honorary Professors of the other Institute

and may participate in the teaching programmes of the other Institute in honorary capacity, as per the Rules of the respective institute. The Honorary professors will enjoy the library facilities of each other's institutes like regular faculty. However, a separate request must be made to avail of book-borrowing facilities. In order to share expertise, some seats may be given on priority basis to the faculty and students of the other Institute in the academic/research programmes of one Institute, which are mainly for the in-house persons and where limited access is available for persons coming from outside, such as training programmes, seminars, workshops, etc. The research facilities at one Institute should be made available to the students/scientists/faculty of the other Institute through the involvement of research supervisors or the technology advisors, as per the norms of the respective institute, as follows:

1. A student registered for a post-graduate course in one Institute shall be governed by the Rules of that Institute and will earn the credits of the course as per the prescribed norms. However, a student from one Institute will be permitted to enroll for equivalent courses in the other Institute and earn the credits by attending the courses and clearing the respective evaluation procedures, provided such courses are duly approved by the parent Institute. Thus, the two Institutes shall recognize the credits earned by the students in the institute other than the one where they are enrolled.

2. To facilitate the process of a student attending the course work in the partner Institute, the supervisor of the student in the Parent Institute shall put up a proposal (in consultation with the appropriate academic bodies of the Institute concerned) to the Dean (HBNI)/Dean(ICT), as the case may be.

3. A research guide in one Institute may select a faculty member from a partner institute as a co-guide for guiding a Master's or doctoral student working under his/her guidance; provided such a declaration is recorded at the time of registering the student, with consents from the Heads of both the Institutes. However, collaboration among faculty of each institute, without any such formal arrangement will be within the frame-work on the MOU. This may be required for joint publications.

4. A student with a co-guide should be permitted to work in the specified laboratories of the organization to which the co-guide belongs and avail the facilities there from, and the organization should have no objection to the inclusion of the outcome of the research under this programme in the thesis of the student.

5. Any liability arising out of the work done by a student in the co-guide's organization shall be the responsibility of the co-guide and the parent Institute of the student shall not be responsible for the same.

6. Any patent emerging out of the research work under such a programme shall be with the authorship of candidate, guide, co-guide, and the parent Institute and shall be filed as per the respective ordinances, regulations and rules of the Institute.

7. In case the co-guide leaves his organization, or retires the guide may accept a co-guide from the same organization, provided the new co-guide is recognized. In case such a co-guide is not available, the entire responsibility of successful completion of the programme shall lie with the guide. If the retired person remains with the institute or with other institute of HBNI, as an emeritus scientist, he/she will be permitted to continue as co-guide till the period of his/her new assignment.

8. In addition to the recognized research supervisor, a student may be advised by a Technology Advisor, who need not be recognized Ph.D. Guide, from the other Institute. The Technology Advisor shall be a person of high repute in the area of research being pursued by the student. The Technology Advisor shall be chosen by a research guide, with consent of the Director, ICT and Director of the respective constituent Institution of the HBNI.

Department of Atomic Energy (DAE) -DGFS programme

Institute of Chemical Technology (ICT) is one of the Institutes recognized by the Department of Atomic Energy for its DGFS programme It is a Two-Year DAE Graduate Fellowship scheme for Engineering

Graduates and Post-Graduates in Physics for joining M.Tech in specified specializations

Qualifying Degrees and Disciplines:

B.E/ B.Tech in Mechanical, Chemical, Metallurgical, Civil, Electrical, Electronics, Computers, Instrumentation and Engineering Physics.

OR

M. Sc. in Physics, Chemistry, Biosciences, Geology, and Geophysics.

A minimum of 60% (aggregate) of a CGPA of 7.01 in the qualifying degree is an essential requirement. Science candidates are further required to have secured a minimum of 60% (aggregate) in B.Sc. also. Screening and Selection of candidates is through a written test or on the basis of valid GATE score. Applications for the programme are to be submitted to DAE as per advertisement in National newspaper and Employment News. (for details visit website: http://oces.hbni.ac.in)

2.6.8.5 Qualification Criteria for Admission and Registration for Ph.D. (Tech.) in Chemical Engineering and the Course Requirements

Category	Basic Qualification for Admission	Course requirement
1	B. E. in Chemical Engineering /B. Tech in Chemical Engineering / B. Chem., Eng. / B. Tech. in Chemical Technology (ICT) in first class or equivalent	Course work for M. Chem. Engg. (credit courses).(to be completed in 2 semesters from the date of admission) and courses related to nuclear Engineering (to be completed in 3 semesters from the date of admission) Nuclear and Reactor Physics Nuclear Chemical Engineering Chemistry of Radionuclides Material Science in Nuclear Engineering
2	Bachelors degree in Chemical Engineering or Chemical Technology in first class or equivalent + Course work in BARC training school	5 courses including one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. (to be completed in 2 semesters from the date of admission)
3	Bachelors degree in Mechanical / Mettalurgical Engineering (except Chemical Engineering / Technology) I first class or equivalent + Course work in BARC training school	10 courses and one Seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. (to be completed in 4 semesters from the date of admission)
4	Masters degree in Chemical Engineering / Masters degree in Chemical Technology (ICT) in first class or equivalent	courses related to nuclear Engineering (to be completed in 2 semesters from the date of admission) Nuclear and Reactor Physics Nuclear Chemical Engineering Chemistry of Radionuclides Material Science in Nuclear Engineering
5	M. Tech. Degree in Chemical Engineering from HBNI + Course Work in BARC training school	Minimum number as required by UGC guidelines.

6	M. Tech. Degree in any branch of Engineering (except Chemical Engineering / Chemical Technology) from HBNI + Course Work in BARC training school	4 - 5 courses and one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. (to be completed in 2 semesters from the date of admission)
7	M. Sc. Degree in Physics / Chemistry / Mathematics in first class or equivalent + Course work in BARC training school	8 - 10 courses and one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. (to be completed in 4 semesters from the date of admission)
8	M.Sc. Degree in Physics / Chemistry / Mathematics in first class	14 Credit courses and one seminar in Chemical Eng. courses (to be completed in 4 semesters from the date of admission) courses are listed below in category 3.3
9	M. Sc. Degree in Physics / Chemistry / Mathematics in first class (Rank in top 3 in University)	(i) Typically 20 courses comprising of: (to be completed in 4 years from the date of admission) **B. Chem. Eng. Level courses (Credit courses)** Applied Mathematics - I, II and III M. E. B. C. Momentum and Mass transfer Energy Engineering Chemical Engineering Operations Heat Transfer Chemical Reaction Engineering
		Design and Analysis of Experiments **M. Chem. Eng. Level Courses** (Credit courses) Advanced Momentum transfer Advanced Heat Transfer Advanced Mass Transfer Advanced Reaction Engineering Thermodynamics of Phase Equilibrium Advanced Separation Processes Advanced Reactor Engineering **Nuclear Engineering Level courses (courses)** Nuclear and Reactor Physics Nuclear Chemical Engineering Chemistry of Radionuclides Material Science in Nuclear Engineering

2.6.9 UGC Networking Resource Centre in Chemical Engineering

2.6.9.1 Preamble

The spectacular and consistent performance of the Department of Chemical Engineering, having been rated as number one for past several decades, including 2009-10, which has been revealed by the international surveys, has earned it much recognition, accolades and awards. Apart from the Centre of

Advanced Studies, the UGC has recognized it further by awarding the first ever Networking Resource Centre in Chemical Engineering, in October 2008, to undertake following activities:

1. Research, training and skills development of the faculty and research scholars through periodic discussion, workshop and summer/winter schools
2. Capacity building by adopting faculty and Departments for augmenting their research skills and to mentor them
3. Hosting and facilitating researcher from other institutes/universities to carry out key experiments
4. Augmentation of information resource facility of the Department to provide quality research information to other institutes/researchers
5. To enhance and build state of the art in-house research infrastructure and other research facilities in the Department.

The rapidly changing face of research in chemical engineering offers new opportunities for integrating new research areas within its fold and several workshops, courses, demonstration experiments, regular experiments and seminars have been organized by the Centre. The objective of many of these activities is to acquaint the Chemical Engineering community especially from academic institutions with the emerging face of our discipline, and the how to meet the new challenges that it poses to contribute at the leading edge. The idea is also to train the academic fraternity so that overall research and development in chemical engineering is promoted. The interactive workshops also aim at initiating a dialogue on how the new face of Chemical Engineering can be used to address problems, specific to us as a growing nation. The vacation periods, long weekends and week-long programmes are undertaken which are publicized on the homepage of the institute and also communicated to all chemical engineering Departments. Not only the ICT faculty but experts from other institutes, industries, and visiting professors from foreign universities have delivered lectures and interacted with young faculty.

2.6.9.2 Rules & Guidelines for Registration of Teachers from UGC and/ Or AICTE Approved Colleges for Ph. D.

Under this programme the Centre is required to generate human resource and keep on organizing seminars, workshops, and laboratory sessions for the benefit of teachers and students. One of the primary requirements is to create qualified doctoral degree holding teachers who in turn will generate quality students. Following are the salient points of this programme proposed by the Centre.

1. Teachers who have been in the services of any Engineering and Technology Colleges approved by the UGC/AICTE are entitled for registration for Ph D with Chemical Engineering faculty of the ICT.
2. A minimum service of two years and permanent placement in the concerned college will be the basic criterion.
3. The teacher must have a consistently good academic record with minimum first class in bachelors and/or masters degree from a reputed university.
4. The college management should undertake the responsibility of releasing the person for 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 Co-ordinator of the Centre. A bond in this regard should be signed and approved by the Director, ICT.

5. Teachers can work in the ICT labs 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 Coordinator of the Centre.

6. A maximum period of 5 years extendable by 1 year will be allowed in case of teachers who are part time but put in at least 3 months full time work in a year in the 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 teacher a hands-on experience and bringing 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.

7. 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 international journals with decent impact factors. 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.

8. The registered teachers as Ph D students 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.

9. If the teacher intends to join the ICT on leave without pay for a period of three years, then the candidate could be eligible for the UGC fellowship under our SAP programme.

10. Teachers with Masters Degree will be allowed to undertake benefit of this scheme. Those who have got Bachelor's Degree ought to take leave from their colleges in order that they complete the theory part of the Masters Programme for direct Ph.D.

11. All regular admissions criteria are applicable to these candidates and they must also do the course work required for Ph.D. programme.

Centre of Excellence for Process Intensification (CoE-PI)

The Centre for Process Intensification for Process Industries (CoE-PI) under TEQIP in the Institute of Chemical Technology (ICT), Mumbai, aims to be a world leader in the field of conceptual process design, Process Integration and Process engineering. The methodologies will allow environmentally friendly process design with the most efficient use of raw materials and energy with affordable cost. The Centre shall be dedicated to the development of design methodologies in the field of process intensification and process integration. The Centre aims to change process design practice, by developing and disseminating new process design and integration methods for clean and efficient use of raw materials and energy at lower cost. The process intensification and integration will be based on interactions between elements of the chemical and physical processes that take into account during the process design the material andenergy flows. The resulting integrated processes exploit synergies between the system components, leading to processes with superior performances, in terms of their raw materials consumption, energy demand, process economics, environmental impact and sustainability. The centre has identified 13 research projects which have great relevance with present industrial practice.

2.6.10 DBT-ICT Centre for Energy Biosciences

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 infracture 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 DBT-ICT Centre for Energy Biosciences (DBT-ICT-CEB) 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 Centre was established 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 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. Renu Swarup, Advisor, DBT, and functions under the leadership of Professor G. D. Yadav, Vice Chancellor, ICT. The projects and technical programs at the Centre are coordinated by Professor 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 extension of five years by the Department of Biotechnology with the extended mandate of upscaling and upgrading the platform technologies during the first phase.

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 10 Ton/day biomass pilot plant set up by Industry in the first phase has successfully validated all segments of the novel DBT-ICT Lignocellulosic Ethanol Technology in discontinuous mode. The second phase shall involve integration of all the segments at full capacity in a continuous non-stop flow mode from biomass size reduction to ethanol fermentation. Also during the first phase, the Centre has been able to create and develop cutting edge technologies in the areas of biorefinery development, separation sciences, analytical sciences, enzyme technology, fermentation technology, algal biotechnology and metabolic engineering. The Center aims to continue the work in an intensive mission mode aimed at translation of developed technologies. To achieve its objectives the Centre has entered collaborations with several Industrial Partners and several of the joint initiatives have received federal support exceeding 10 million USD.

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 Centre is in the process of expanding its state-of-art facility by procuring several high-end equipments and instruments that will not only lead to high level contemporary research but also an accelerated development of several more scalable technologies based on the knowledge base generated.

Biosciences and Bioprocess Technology

Biosciences and Bioprocess Technology comprises the fundamental biosciences to design molecules using advanced tolls of biotechnology and translate them into production through bioprocess technology. The bioscience involves basic biology, molecular biology, synthetic biology, protein and enzyme engineering. Bioprocess technology involves upstream and downstream processing, product and process characterization and bioanalyticals techniques. Upstream processing comprises fermentation, media and growth engineering, optimization and scale up. Downstream processing involves various unit operation used in industrial biotechnology i.e. cell harvesting, cell lysis, centrifugation, membrane filtration, adsorption and process chromatography, precipitation, crystallization, drying etc. Product characterization involves numerous analytical techniques including HPLC, GC, LC-MS/MS, FTIR, DLS, DSC-TGA, CE, high throughput robotic liquid handling, electrophoresis etc.

The centre has been pioneering in the field of bioprocess and industrial biotechnology. The centre offers post graduate courses e.g. M. Tech. and Ph.D. (Tech) in Bioprocess Technology and Ph.D. (Sci) in Biotechnology. Centre has several academia and industrial collaboration at national and international level. The M. Tech. Bioprocess technology course was started in year 1993 at the institute and has been grade 'A' by MHRD. Centre also offers fellowships from various industry funded projects and government agencies for doctoral students, where as M. tech. Bioprocess programme is supported by Department of Biotechnology, GOI.

2.6.11 Centre of Green Technology

2.6.11.1 Inception of the centre of Green Technology

The Green Technology center at ICT was incepted in 2005 under the potential for excellence scheme of the University of Mumbai. Subsequently, ICT has become a Deemed University and an Elite Center of Excellence in 2008 . Since then the Green Technology programmes are conducted solely by Centre of

Green Technology, ICT.

2.6.11.2 Vision and mission of the centre of Green Technology

VISION :

- To become a globally recognized Green Technology Centre of excellence, through illustrious academic contributions at the national and international level.

MISSION :

- To promote the objectives, principles and outcome of green processes and products.
- To transmit research outcome to industry for making processes and products environmentally benign.
- Human resource development with awareness of environment and hazard related issues.
- To undertake sponsored projects of national relevance.
- To get quality publications in pear reviewed journals, national and international forums for the benefit of scientific community and society.

Programmes offered by the Centre of Green Technology

The center of Green Technology offers an interdisciplinary M. Tech programme of both part and full time. It also conducts a Ph.D. programme. GATE and GPAT qualified candidates admitted to the M Tech programme are eligible for fellowships.

Highlights of the Green Technology programmes

Both the post graduate and Ph.D. programmes in Green Technology at ICT encompass the aspects of green and sustainable science and technology. As the programmes are interdisciplinary, the post graduate and doctoral students get ample experience and support across the Departments of ICT both

in terms of research and curricular courses . This broad spectrum expertise is a unique and valuable advantage .

Areas in which research projects carried out in the Centre of Green Technology

- Development of catalysts for energy efficient and green processes
- Synthesis and application of nanomaterials
- Green Technology in pharmaceuticals and drug synthesis
- Conversion of multi-step synthesis into cascade engineered synthesis
- Synthesis of biodegradable chemicals and materials
- Application of biotechnology for sustainability
- Synthesis of safe and benign chemicals with minimum impact on environment.
- Process equipment design and operation to achieve sustainability
- Green Technology for hazard free, benign processes and products

It is hoped that the centre emerge as a model school encompassing various disciplines of science, engineering and technology with the common goal of sustainability and environmental viability.

2.6.12 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

1. Courses offered by the Department of Chemistry-

Name of the Course	Number of Students	Eligibility

M.Sc. (Chemistry)(By Papers) (Accredited by the Royal Society of Chemistry, UK)	20	1. B.Sc.(Chemistry)& should qualify in the written entrance examination conducted by the Department of Chemistry 2. A candidate must have taken mathematics (Full course) in 12th standard examination. M.Sc. (Physical/Organic/Inorganic/ Analytical Chemistry) with minimum 60% for general category & 55% for SC/ST category & should qualify in the written entrance examination & interview conducted by the Department of Chemistry.

2. Part- Time courses offered by the Department of Chemistry- NONE

3. Profile of the Department of Chemistry-

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. andB.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.

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) & 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.

2.6.13 Department of General Engineering

VISION :

- To contribute to India through excellence in technical education and research,to serve as a valuable resource for industry and society.

MISSION :

- To impart basic knowledge of General Engineering subjects to students to enable them for better understanding of practical applications to various industrial problems.
- To undertake collaborative projects which offer opportunities for long term interaction with academia and industry.
- To provide an excellent educational experience for its students .This experience includes an emphasis on the technical communication ,teamwork and life-long learning skills in which graduate engineers held to excel at the workplace and in society.

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 is running a full time master's course **M. E. in Plastics** Engineering from 1972. Students having basic qualification in Mechanical, Production, Plastic/ polymer, **Electrical** and chemical engineering and technology are eligible for admission to this course. The course deals with processing of plastics, composites, **design of molds**, design of processing tools/ machinery, **CAD, CAM and CAE** and testing, development of new materials for industrial as well as domestic applications. Apart from laboratories such as workshop, electrical and electronics, applied mechanics and strength of materials, the Department has provision for special facilities of processing of plastic and polymer composites, testing of plastics, and computer aided design and drawing laboratories. These laboratories cater to the needs of the under graduate and post graduate students of the Department and institute. 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 single screw extruder. Department have licensed CAD software such as Mold flow, Pro-engineer and Solid Works with high end computer facilities. It also has testing machines such as impact tester, MFI tester, hardness tester etc. GATE qualified candidates of M. E.in Plastics Engineering receive AICTE fellowships and TEQIP program fellowships. Doctoral students ofPlastics/ Mechanical/ Production/ Electrical/ Civil/ Engineering will get 1 UGC SAP fellowship per year.

Candidates can register for Ph. D. in Plastics/ Mechanical/ Production/ Electrical/ Civil/ Engineering either full time or as a external candidates (Only for teachers/ employees from Government organizations).

Department is having specialized teaching faculty from mechanical, plastics, production, civil, electrical and electronics branches. Most of the faculty are guides for the masters and doctoral programs of the institute in the area of their specialization. Students can take up research in multidisciplinary areas.

Department is also responsible for Civil and Electrical maintenance and repairs of institute buildings, laboratories, faculty quarters and hostels. Department is actively involved in the development of the new buildings and infrastructural facilities. Department looks after Liasoning with BEST and Municipal Corporation for all the requirements of the institute.

The department has recently setup cement composites laboratory for doing work on different cement composites using Industrial wastes, construction chemicals, fibres etc.

2.6.14 Department of Mathematics

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, Mathematical Pedagogy and Math Education. At present the Department has one research project sponsored by IGCAR. This project is related to the study of thermal stratification in molten sodium pool. Since the flow is highly turbulent, various turbulent models are tested for their applicability to this type of flows. The students are developing in-house codes for the numerical simulation and validating the results with experimental data. Finally the designing of the pool will be proposed based on the numerical findings.

VISION:

- 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.

MISSION:

- 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.

The faculty of this Department is involved in a joint research project with the University of Mumbai on "Computational Social Sciences" under University with Potential for Excellence (UPE) sponsored by UGC. The Department has started a two year Masters programme in Engineering Mathematics from the academic year 2011-2012. This course has been approved by UGC under its innovative schemes. The highlight of this course is to give practical knowledge to the students in the fields of computational mathematics, mathematical aspect of momentum, heat and mass transfer mechanism, computer programming, bioinformatics, mathematical biology, optimization techniques, statistical analysis and design of experiments. The students joining for Ph.D. will also have one semester course work which is necessary for their Ph. D. work.

From the academic year 2010-2011 the Department has arranged two workshops for college teachers on "Math Modeling and Uses of Free Math Software".

The Department has a SGI workstation for high level computations and simulations. The Department will have its own P.G. lab with latest mathematical software and equipments for providing computational facilities to master's and Ph.D. students.

2.6.15 Department of Physics

VISION :

- To evolve ourselves to understand and know the basics of science and to utilise it to develop newer technologies for the benefit of society & aptly be a part of this Esteemed Institution and to strive to infuse momentum to the Department so that this Department becomes one of the best learning centres of basic sciences and strive to make significant contributions to academia as well as to industry.

MISSION :

- Innovatively follow newer ways of teaching and upgrade curricula to infuse enthusiasm of knowing in students.
- Work in diverse fields and multidisciplinary themes so that learning and knowledge is gained by faculty to move further to fulfil the vision.
- Strive to get funds to upgrade and maintain present research facilities.
- To create POLYMER and NANO SCIENCE CENTRES.

Department of Physics at the ICT has the distinction of being one of the earliest Departments in the Institute. It was started as Optics Section in 1935 which was subsequently changed as Physics Section in the Second Five Year Plan and then to Department of Physics under MUICT. Department of Physics undertakes undergraduate and post graduate teaching in Physics. The Department participates in 1st year B.Tech and B.Chem. UG teaching - theory and practical's. The Department offers electives at 2nd year B.Tech and B.Chem. The faculty of the Department undertakes a full course of Physical Methods of Analysis for all branches of M.Tech students in both the semesters which also serves as a credit course for majority of Ph.D. students. The Department has started M.Sc (Physics) (Material Science) course from year 2014 with emphasis on the Material Science with maximum strength as 20.

The Department is one of the participating Departments of Centre of Advanced Studies in Physio-Chemical Aspects in Textiles, Fibers, Dyes. The Department has made significant contributions in the field of Material Science (Study of Polymer/Polymer composites & nano-composites and their various properties), Solar Thermal Applications, Nano-aided Drug Delivery. 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 and attended national and international seminars / workshops and presented their papers. A good number of papers are published in peer reviewed journals. Faculty members have research projects from industry and various government funding agencies. Two patents on solar thermal system are also filed recently.

THRUST AREAS OF RESEARCH:

Polymer/Polymer Composites and nano-composites : i) - Study of crystallization kinetics in polymers, polymer composites & polymer-nanocomposites, Orientation studies of Polymers/Polymer composites &-nanocomposites, Structure property relationship in Polymers/Polymer composites &-nanocomposites, ii) Surface modification of polymer materials using plasma for improvement of adhesion of printability properties iii)Study of electrical, thermal, mechanical, dielectric and piezo electric properties of polymers and their composites.

Solar Thermal Applications: Designing of reflector shape, Determination of efficiency of collection of solar radiations, Studying configuration & surfaces of absorber pipes under different parameters, Generation of steam upto 250° C for refrigeration and other industrial applications.

Colour Assessment of Dyed Fabric, Study of Geometric Attributes of Colour. Synthesis of Nanoparticles, Nano Aided Drug Delivery

2.6.15.1. Name of the Programmes offered:

M.Sc. Physics (with an emphasis on Material Science)

Ph. D. in Physics (thrust area being Polymer/Polymer Composites and nanocomposites, Solar thermal, Coloured assessment of dyed fabric and study of geometric attributes of Colour, Nanoparticle synthesis,

Theoretical aspects of Chemical Engineering, Probing Magnetic properties of materials, Carbon nanotubes, Graphene, Fuel cell electrocatalyst, Energy storage and Electrochemical sensors)

2.6.15.2. Admission Criteria for the programmes offered

For M.Sc. Physics: Eligibility: B.Sc. in Physics with minimum 55% o Selection based on Entrance exam.
For Ph.D. Physics: Eligibility: M.Sc. in Physics with minimum 55% o Selection based on Entrance exam.

2.6.15.3. Courses handled:

First & Second Year B. Chem. Engg. & B. Tech. – Applied Physics I & II, Statistical Mechanics and Colour Physics

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

2.6.16 Perfumery and Flavour Technology

VISION :

- Empowering the knowledge of perfumery, flavors and cosmetics through learning a cutting-edge technology for the benefit of mankind.

MISSION :

- To educate students and professional in the area of perfumery and flavour, cosmetic technology
- To serve and upgrade the aroma industry in the form of chemical technology so as to make them competitive in local and global market

---

Actively nurturing with close co-operation at National and International levels, with reputed institutions, industries, research and development organizations and universities

We are using flavor and fragrances since last five millennia. The first individual chemist known to history was from the second millennium BCE in Mesopotamia. As an area of modern chemical industry, it is low profile compared with the pharmaceutical & petrochemicals. Yet it is a multi-billion dollar, global industry that impacts on everyone's life in the developed world.

Synthetic chemistry is developing new methodologies, so that materials which are important and available at high cost can be made available at an affordable price. Analytical work on examination of new exotic materials may also lead to the identification of exciting new compounds.

Currently the organizations like Givaudan, IFF, Firmenich, Symrise and Quest International have turnovers greater than $ 16 billion. The geographical distribution of sale of flavour and fragrance materials is surprising with North America 30.6 %, Asia Pacific 27 % and Western Europe 23.2 %. The key factor is the development of global economy. The market for flavour and fragrance is a mirror of the affluence of a society. With this we can hope that billions can share the living standards of the developed world which in turn shall open the market for the flavour and fragrance industry.

Perfumery and Flavor Technology is a unique course in Institute of Chemical Technology. It startedin the year 1990-91. Major funding agencies for this course are FAFAI and ICEOFF and Dr. R.Y. Mantri Endowment. We are offering two fellowships of Rs. 10,000 per month for the Masters course in Perfumery and Flavours.

3. COURSES OFFERED AND CRITERION OF ELIGIBILITY FOR ADMISSION

3.1 COURSES OFFERED

BACHELOR'S COURSES [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.

Courses 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 COURSES [See Section 3.3 for details]

Courses Offered

1.	Master of Chemical Engineering (M. Chem. Engg.) (Full-time 2-years & Sponsored 3- years)			
2.	Master of Pharmacy (M. Pharm.) (Full-time 2-years) in			
	Pharmaceutics	Pharmaceutical Chemistry	Medicinal Natural Products	
3.	Master of Technology (M. Tech.) (Full-time 2-years & Sponsored 3- years) in			
	Dyestuff Technology	Fibres and Textiles Processing Technology		
	Food Engineering and Technology	Oils, Oleochemicals and Surfactants Technology		
	Pharmaceutical 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		
5.	M.E. (Plastic Engineering) (Full-time 2-years & Sponsored 3- years)			
6.	M.Sc. (By Papers) (Full-time 2-years) in			
	Chemistry	Engineering Mathematics	Physics (Material Science)	Textile Chemistry

DOCTORAL COURSES [See Section 3.4 for details]

1. Ph.D. (TECH.) & 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 & Surfactants Technology		Pharmacy@		
Pharmaceutical Technology		Polymer Engineering and Technology		
Surface Coating Technology		Plastic Engineering		
Perfurmery & 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.

POST GRADUATE DIPLOMA [See Section 3.5 for details]

POST GRADUATE DIPLOMA (2years-4 semesters) [conducted on Saturdays and Sundays only]
Chemical Technology Management

HIGHLIGHTS:

1. A candidate, who fails to accept an offer of admission to any of the courses, made by the Institute, for whatever reasons, forfeits his/her claim for admission for that academic year (1st July to 30th June) 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 pay order/ demand draft of necessary application fees 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 course.

   All Rights regarding the admissions at the ICT are reserved with the Vice Chancellor, ICT.

3.2 ADMISSION TO BACHELOR'S COURSES

ADMISSION TO FIRST YEAR OF FOUR YEARS- B.CHEM.ENGG., B.TECH. (SEVEN BRANCHES) AND B.PHARM. DEGREE COURSES IN ICT, MUMBAI

(FOR THE ACADEMIC YEAR 2016- 2017)

All these admissions will be conducted by the Directorate of Technical Education (DTE), Govt. of Maharashtra.

PLEASE REFER DTE BROCHURE OF ADMISSIONS AND THEIR WEBSITE FOR ALL DETAILS. (www.dte.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)

(Additional 5% seats are available under AICTE Tuition Fee Waiver Scheme (TFWS) for above courses).

II [B.Pharm.]

100% for State of Maharashtra

BACHELOR'S COURSES OF STUDIES AND INTAKE CAPACITY

All UG courses are post - HSC / XIIth Std. Four - Year Semesterised Degree Courses.

1. **Bachelor of Chemical Engineering (B.Chem. Engg.) : 75 Seats**
2. **Bachelor of Technology (B.Tech.) in**
   - (a) Dyestuff Technology : 20 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:

Course Fees prescribed:

The candidates admitted during 2017-18 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. No.	Details	Open and All reserve category students Fee for 1st Year (Rs.)	Fees for 2nd, 3rd and 4th Year (Rs.)
1.	Library Deposit	2,000/-	-
2.	Fees	69,345/-*	69,345/-
TOTAL		71,345/-	69,345/-

***Note: Fees of candidates belonging to SC/ST/OBC/VJNT/SBC is reimbursed by Govt. of Maharashtra.**

3.3 MASTER'S DEGREE PROGRAMMES

COURSES OF STUDIES, ADMISSION CRITERIA AND CAPACITY

(1) All Full- time Master's courses (other than M. Sc. courses) are Two-Years programmes [partly by papers (two semesters) and partly by thesis (two semesters)] with fellowship for GATE/ GPATqualified candidates.

(2) All Sponsored Master's courses (other than M. Sc. courses) are Three-Years programmes for sponsored candidates [partly by papers (four semesters) and partly by thesis (two semesters)] without fellowship.

(3) All M.Sc. courses are Two- Years programmes (four semesters) only by papers. (See Table 3.3.1 below for different courses).

TABLE 3.3.1 : MASTERS DEGREE COURSES

SR. NO.	DEGREE	BRANCH	Intake	Available for this year*
1.	M. Chem. Engg. (Full-time 2-years)	Chemical Engineering	30	30
2.	M. Tech. (Full-time 2-years)	Dyestuff Technology	18	10
3.		Fibres & Textile Processing Technology	18	18
4.		Food Engineering & Technology	18	10
5.		Oils, Oleochemicals & Surfactants Technology	18	18
6.		Pharmaceutical Technology	18	08
7.		Polymer Engineering & Technology	18	18
8.		Surface Coating Technology	18	18
9.	M. Pharm. (Full-time 2-years)	Pharmaceutics	18	18
10.		Pharmaceutical Chemistry		
11.		Medicinal Natural Products @		
12.	M.E. (Plastic Engg.) (Full-time 2-years)	Plastic Engineering	18	10

13.	M. Tech. (Full-time 2-years)	Bioprocess Technology #	30	30
14.		Food Biotechnology #	10	10
15.		Pharmaceutical Biotechnology #	10	10
16.		Green Technology	30	30
17.		Perfumery & Flavour Technology ¥	18	10
18.	M. Chem Engg. (Sponsored 3 years)	Chemical Engineering	10	10
19.	M. Tech.	Dyestuff Technology	10	05
20.	(Sponsored 3-years)	Fibres & Textile Processing Technology	10	10
21.		Food Engineering & Technology	10	00
22.		Oils, Oleochemicals & Surfactants Technology	10	10
23.		Pharmaceutical Technology	10	04
24.		Polymer Engineering & Technology	10	10
25.		Surface Coating Technology	10	10
26.	M.E. (Plastics Engg.) (Sponsored 3-years)	Plastics Engineering	10	05
27.	M. Tech. (Sponsored 3-years)	Green Technology	10	10
28.		Perfumery & Flavour Technology	10	02
29.	M.Sc. (Full-time 2-years) (by papers)	Chemistry	20	20
30.		Engineering Mathematics	20	20
31.		Physics (Material Science)	20	20
32.		Textile Chemistry	20	20

* The actual number to be admitted will be subject to number of fellowships requirement of individual department and availability of Research Guide.

✦ Tentative seat distribution given is for intake (Sr. No. 1-12 in Table 3.3.1) of GATE/ GPAT qualified candidates eligible to receive UGC Fellowship (Subject to sanction). The Vice-Chancellor, ICT reserves the right to change the course/ branch wise distribution of these fellowships, based on availability of the candidates.

The selection for the UGC Fellowships shall be based on the 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), as the case may be.

@ "Medicinal Natural Products" includes the subjects related to Pharmacognosy and Pharmacology.

The seat distribution given is for intake (Sr. No. 13, 14 & 15 in Table 3.3.1) through JNU-CEEB 2017. The entrance exam will be conducted by JNU, New Delhi and seats will be allotted. Admission of Allotted seats will take place at ICT. The admitted candidate will receive fellowship as per DBT guidelines.

¥ (Sr. No. 17 in Table No. 3.3.1) Subject to availability of fellowships from PAFAI, ICEOFF

No fellowships are available for Sponsored 3 - years Master's courses (Sr. No. 18 - 28 in Table 3.3.1), which are meant only for industry / academic - sponsored candidates having relevant experience. Also, no fees concessions, as applicable to unemployed Reserved Category Students, can be availed and full fees need to be paid by the candidate. (See Section 3.3.1.8).

Please note that no scholarship or fee concession will be available to employed candidates for any courses even if they belong to backward class category.

No fellowships are available to any of the M. Sc. Courses by papers (Sr. No. 29 - 32 in Table 3.3.1). The number of seats mentioned against full time 2 yrs. course (Sr. 1 to 17) are the intake as per the AICTE guidelines.

Reservation policy will be applicable as per the norms by Govt. of Maharashtra.

3.3.1 Eligibility Criteria for the Admission (Indian Nationals)

3.3.1.1 M.Chem.Engg., M.Tech.

(Sr. Nos. 1-8 Full time 2-years and Sr. Nos. 19-25 Sponsored 3-years in Table 3.3.1)

The candidate should have passed any one of the following Bachelor's degrees of the ICT or any equivalent examination of a post-HSSC four-year degree course of IIT/NIT or any University/ Institute recognized by the UGC/ AICTE, with 60% marks in aggregate or equivalent CGPA. [55% marks in aggregate or equivalent CGPA for the backward class candidate].

Additionally, Candidates from the following different courses will be eligible for admission to M. Chem. Engg. course at ICT only if they have undergone "minimum 120 hours of class-room teaching /contact hours of Mathematics course(s) at the UG level.

i. B.Chem.Engg. or B.E. / B.Tech. in Chemical Engineering/ Biotechnology/ Biochemical Engg.

ii. The candidate should have passed any one of the following Bachelor's/Master's degrees of ICT or any equivalent examination of IIT/NIT or any University recognized by the UGC, with 60% marks in aggregate or equivalent CGPA). [55% marks in aggregate or equivalent CGPA for the backward class candidate].

   B.Chem. Engg./ B. Sc.(Tech.)/B.Tech - in any branch of Chemical Technology/biotechnology/ B. Pharm.

iii. B.Tech. (Textile Processing/ Textile Chemistry), B.Sc. (Tech.) (Textile Processing / Chemistry), B.Text. (Textile Chemistry), B.E. (Textile Chemistry or Textile Technology), B.Tech. (Textile Chemistry or Textile Technology), B.Tech. (Fibres and Textile processing Technology/ Fibre Technology) with significant emphasis on chemical processing of textiles.

iv. B.Tech. (Food Engineering and Technology) or B.E./ B.Tech. in Food Engineering/ Food Technology/ Food Science/ Food Process Technology/ Food Process Engineering, or B.Sc. (Tech.) (Food Technology).

v. B.Sc. (Tech.) (Oils Technology) or B. Tech. (Oils, Oleochemicals and Surfactants Technology).

vi. B.Sc. (Tech.) (Pharmaceutical and Fine Chemicals) or B. Tech. (Pharmaceutical Chemistry and Technology) or equivalent B.Tech. with Pharmacy background only.

vii. B.Tech. (Polymer Engineering and Technology /Surface Coating Technology); B.Sc. (Tech.)

(Technology of Plastics or Technology of Paints), B.Sc. (Tech.) (Rubber Technology), B.E. (Polymer Engg. / Plastic Engg.), B.E. (Petrochemical Engineering/ Technology).

viii. B.Sc. (Tech.) (Paints Technology / Plastics Technology), B.Tech. (Paints Technology / Polymer Engineering and Technology), B.Chem.Tech. (Paints Technology / Polymer Engineering / Polymer Technology / Plastic Technology), B.E. (Paints Technology / Polymer Engineering / Polymer Technology / Plastic Technology / Plastic Engineering).

3.3.1.2 M.Pharm. (Sr. Nos. 9-11 Full time 2-years in Table 3.3.1)

The candidate should have passed the Bachelor's degree in Pharmacy (B. Pharm.) of the ICT or any UGC recognized University/ Institute, with 60% marks in aggregate or equivalent CGPA. [55% marks in aggregate or equivalent CGPA for the backward class candidate].

The following THREE specializations are offered for M. Pharm.

Pharmaceutics (Sr. No. 9 in Table 3.3.1)

Pharmaceutical Chemistry (Sr. No. 10 in Table 3.3.1)

Medicinal Natural Products (Sr. No. 11 in Table 3.3.1)

For specialization, option form will be given at the time of admission offered. Once a candidate is offered a seat in any one specialization, according to the availability of seats at the time of allotment and in the order of merit and preference given by the candidate, no request for any transfer or change of preference shall be entertained. However, if seat falls vacant, the candidate shall be transferred to the higher preference and it shall remain binding on the candidate.

3.3.1.3 M.E. (Plastic Engineering) (Sr. No. 12 Full time 2-years and Sr. No. 25 Sponsored 3-years in Table 3.3.1)

The candidate should have passed B.E. or B.Tech. in Mechanical engineering/ Electrical Engineering/ Plastics engineering / Polymer engineering / Production Engineering /Chemical Engineering/ Chemical Plant Engineering of any post-HSSC four year degree course of IIT/NIT or any University/ Institute recognized by the UGC/ AICTE, with 60% marks in aggregate or equivalent CGPA. [55% marks in aggregate or equivalent CGPA for the backward class candidate].

3.3.1.4 M.Tech. Bioprocess Technology (Sr. No. 13 Full time 2-years in Table 3.3.1)

Candidates with B. Pharmacy; B. Tech. degree any branch of chemical technology of ICT or or any other equivalent degree of any University recognized by the UGC of four- year degree course after HSSC/Std. XII, with 60% marks in aggregate or equivalent CGPA [55% marks in aggregate or equivalent CGPA for the backward class candidate]. B. Tech./ B.Sc. (Tech.)/ B. E. in Food Engineering and Technology/ Food Engineering/ Food Technology/ Food Process Technology/ Food Process Engineering/ Dairy Technology/ Biotechnology/ Biochemical Engineering/ Pharmaceutical Technology/ Oil Technology, pharmaceutical technology, food technology, textile and fibers technology, polymer engineering and technology, dairy technology, industrial biotechnology, Oil & Oleochemicals technology, dyes and dyestuff technology or any equivalent degree of full four year duration of any University recognized by the UGC. B.E/B. Tech in Chemical Engineering, food engineering, biochemical engineering, biomedical engineering; B. Chemical Engineering; Three year degree programs in these disciplines are not recognized for admission; MSc in

biotechnology, life sciences, biochemistry, microbiology, molecular biology, microbial genetics, genetics & bioinformatics or equivalent thereof from any recognized university are eligible.

3.3.1.5 M.Tech. Food Biotechnology (Sr. No. 14 Full time 2-years in Table 3.3.1)

The candidate should have passed B. Tech. degree in Food Engineering and Technology of the ICT or any other equivalent degree of any University recognized by the UGC of four- year degree course after HSSC/ Std. XII, with 60% marks in aggregate or equivalent CGPA [55% marks in aggregate or equivalent CGPA for the backward class candidate]. OR B. Tech./ B.Sc. (Tech.)/ B. E. in Food Engineering and Technology/ Food Engineering/ Food Technology/ Food Science/ Food Process Technology/ Food Process Engineering/ Dairy Technology/ Biotechnology/ Biochemical Engineering/ Pharmaceutical Technology/ Oil Technology or any equivalent degree of full four year duration of any University recognized by the UGC. Three year degree programs in these disciplines are not recognized for admission; OR M. Sc. in Biotechnology/ Life Sciences/ Biochemistry/ Microbiology/ Genetics/ Microbial Genetics and Bioinformatics or equivalent thereof from any recognized university.

3.3.1.6 M.Tech. Pharmaceutical Biotechnology (Sr. No. 15 Full time 2-years in Table 3.3.1)

Candidates with B. Pharmacy; B. Tech. degree any branch of chemical technology of ICT or or any other equivalent degree of any University recognized by the UGC of four- year degree course after HSSC/Std. XII, with 60% marks in aggregate or equivalent CGPA [55% marks in aggregate or equivalent CGPA for the backward class candidate]. B. Tech./ B.Sc. (Tech.)/ B. E. in Biotechnology/ Biochemical Engineering/ Pharmaceutical Technology, pharmaceutical technology, industrial biotechnology, or any equivalent degree of full four year duration of any University recognized by the UGC. B.E/B. Tech in Chemical Engineering, biochemical engineering, biomedical engineering; B. Chemical Engineering; Three year degree programs in these disciplines are not recognized for admission; MSc in biotechnology, life sciences, biochemistry, microbiology, molecular biology, microbial genetics, genetics & bioinformatics or equivalent thereof from any recognized university are eligible.

3.3.1.7 M.Tech. (Green Technology) (Sr. No. 16 Full time 2-years and Sr. No. 27 Sponsored 3-years in Table 3.3.1)

The candidate should have passed any one of the following Bachelor's/Master's degrees of ICT or any equivalent examination of IIT/NIT or any University recognized by the UGC, with 60% marks in aggregate or equivalent CGPA). [55% marks in aggregate or equivalent CGPA for the backward class candidate].

B.Chem. Engg./ B. Sc.(Tech.)/B.Tech - in any branch of Chemical Technology/biotechnology/ B. Pharm.

OR

M.Sc. (Chemistry, Biotechnology, Biochemistry).

3.3.1.8 M.Tech. (Perfumery and Flavour Technology) (Sr. No. 17 Full time 2-years and Sr. No. 28 Sponsored 3-years in Table 3.3.1)

The candidate should have passed any one of the following Bachelor's/Master's degrees of ICT or any equivalent examination of IIT/NIT or any University recognized by the UGC, with 60% marks in aggregate

or equivalent CGPA). [55% marks in aggregate or equivalent CGPA for the backward class candidate].

B.Chem. Engg./ B. Sc.(Tech.)/B.Tech - in any branch of Chemical Technology/biotechnology/ B. Pharm.

OR

M.Sc. (Chemistry, Biotechnology, Biochemistry).

3.3.1.9 Master's [(Sponsored 3- Years courses Sr. Nos. 19-28 in Table 3.3.1)]

These courses are meant only for industry / academic - sponsored candidates. Candidates must possess two years teaching or industrial experience. The eligibility criteria shall be as described in Section 3.3.1.1, 3.3.1.3, 3.3.1.7 and 3.3.1.8 above, as applicable.

All regular admissions criteria are applicable to these candidates and the fees applicable per year shall be at par with those for Master's 2-year regular courses.

In addition, for such candidates, the following shall be applicable:

1. The candidate should be
   a) full time industrial/ R & D employee with at least two years experience in a chemical or allied industry or dealing with chemical business or
   b) a permanent teacher having full time teaching experience of at least two years in Engineering and Technology College.
2. The industry/ college/ University/ Institute management should undertake the responsibility of releasing the candidate for course work (Theory Classes), experimental work (Laboratory 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.
3. The candidaes taking admission to these courses will have option to attend the lectures/practicals over a total span of two years and clear the examinations, third year being utilized for thesis work.
4. Candidates can work in the ICT laboratories during holidays (with a prior permission to work on holiday/ late working) and also after their office hours. 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/ her supervisor which will be authenticated by the Head of Department/ Centre Co-ordinator.
5. Part of the experimental work could be allowed to be done in their premises (concerned industry/ institute) for which their management will provide them with necessary facilities.

3.3.1.10 M.Sc. (Chemistry) by papers, Full time 2-years (Sr. No. 29 in Table 3.3.1)

a) The candidates who have taken the post-H.S.C. 3-year degree course of Bachelor of Science with Chemistry as a major subject and Mathematics at H.S.C. level and passed the bachelor examination with at least 60% of the marks in aggregate of equivalent grade average. [55% for the backward class candidates only from Maharashtra State] are only eligible to apply.

b) The candidates must have cleared the bachelor's examination in one sitting i.e. repeaters shall not be eligible for the admission.

c) The admissions will be done strictly on the basis of merit, based on the marks obtained in the qualifying entrance examination.

3.3.1.11 M.Sc. (Engineering Mathematics) by papers, Full time 2-years (Sr. No. 30 in Table 3.3.1)

The candidate should have passed B.Sc. with Mathematics or B.Tech./B.E./B.Sc. (Statistics) with at least four mathematics courses from a UGC/AICTE recognised university / Institute, and passed the qualifying examination with at least 55% of the marks in aggregate or equivalent CGPA (50% for the students from reserved category only from Maharashtra State) are eligible to apply. The candidates who have cleared the qualifying examination in one sitting will be preferred.

3.3.1.12 M.Sc. (Physics) (Material Science) by papers, Full time 2-years (Sr. No. 31 in Table 3.3.1)

The candidate should have passed with post-HSSC 3-year degree course of B.Sc.with Physics at the third year of the course of any University recognized by the UGC; and passed the qualifying examination with at least 55% marks in aggregate or equivalent CGPA (50% marks in aggregate or equivalent CGPA for the backward class candidates) are eligible to apply. The candidates who have cleared the qualifying examination in one sitting will be preferred.

3.3.1.13 M.Sc. (Textile Chemistry) by papers, Full time 2-years (Sr. No. 32 in Table 3.3.1)

The candidate should have passed with post-HSSC 3-year degree course of B.Sc. with Chemistry at the third year of the course of any University recognized by the UGC; and passed the qualifying examination with at least 55% marks in aggregate or equivalent CGPA. [50% marks in aggregate or equivalent CGPA for the backward class candidates] are only eligible to apply. The candidates who have cleared the qualifying examination in one sitting will be preferred.

3.3.2 GRADUATE APTITUDE TEST IN ENGINEERING (GATE) & GRADUATE PHARMACY APTITUDE TEST (GPAT) FOR THE UGC 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 AptitudeTest 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 (GPAT) conducted at the national level. GPAT qualified candidates are also eligible for admission to M.Tech (Bioprocess Tech.) and M.Tech. (Green Tech.) courses.

(3) Rules for availing GATE/ GPAT scholarships:

a. The Fellowships (subject to sanction and availability) are awarded only to the candidates who have passed the GATE/GPAT examination with valid score and on the basis of merit. NON-GATE/NON-GPAT candidates, if admitted, will not be eligible for these Fellowships.

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.

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 UGC 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 UGC. The fellowship amount shall be disbursed only after receiving the appropriate grant from the UGC.

g. Documents required for fellowship

   1. GATE/GPAT Score card PDF copy
   2. SBI Bank Account
   3. Reserved Category Document

      I. Cast Certificate II. Cast Validity III. Non-Creamy Layer Certificate
   4. Aadhar Card

The Institute shall not be responsible for non-receipt of fellowship grant from UGC in time. The students will be required to give an Undertaking in writing to this effect.

3.3.3 ADMISSION CRITERIA

Admission to the Master's courses (Sr. No. 1- 16 in Table 3.3.1) are available subject to the rules given below:

These admissions will be based on GATE/GPAT score, as applicable.

The first preference for admission to a course/ 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 3.3.2).

Only after filling the vacancies by such candidates, the candidates possessing a qualifying Bachelor's degree with valid GATE/GPAT score from any other course/branch will be considered for admission. (Level 2 - See Table 3.3.2)

Preparation of the merit list will be done at two levels, Level 1 and Level 2 separately.

Sponsored candidates without valid GATE/ GPAT score will be treated as Level 2 and/or Level 3, as applicable and separate merit lists will be generated for them.

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 course/ branch, interviews will be conducted to find the suitability of the candidate. There will be an external expert on the interview committee. However, no marks will be assigned to the interview.

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).

NB: It is Mandatory for Masters Students except M. Sc. Students to complete Certificate Course on "Safety and Risk Management" during their Masters Programme.

Admission to the following three courses

a. M.Tech. Bioprocess Technology (Sr. No. 13 Full time 2-years in Table 3.3.1)

b. M.Tech. Food Biotechnology (Sr. No. 14 Full time 2-years in Table 3.3.1)

c. M.Tech. Pharmaceutical Biotechnology (Sr. No. 15 Full time 2-years in Table 3.3.1)

will be based on the Combined Entrance Examination conducted by Jawaharlal Nehru University for admission to M.Tech. Biotechnology Programmes.

Table 3.3.2: 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 & 2
Dyestuff Technology	M.Tech. in Dyestuff Technology	Level 2
	M.Tech. in Perfumery & Flavour Technology	Level 2
Fibres & Textile Processing Technology	M.Tech. in Fibres & Textile Processing Technology	Level 2
	M.Sc. in Textile Chemistry	Level 3
Food Engineering & Technology	M.Tech. in Food Engineering & Technology	Level 1 & 2
Oils, Oleochemicals & Surfactants Technology	M.Tech. in Oils, Oleochemicals & Surfactants Technology	Level 2
Pharmaceutical Sciences & Technology	M.Tech. in Pharmaceutical Technology	Level 1 & 3
	M.Pharm.	Level 1
Polymer & Surface Engineering	M.Tech. in Polymer Engineering & Technology	Level 1 & 2
	M.Tech. in Surface Coating Technology	Level 2
General Engineering	M.E. in Plastics Engineering	Level 2
Chemistry	M.Tech. in Green Technology	Level 2
	M.Sc. in Chemistry	Level 3
Mathematics	M.Sc. in Engineering Mathematics	Level 3
Physics	M.Sc. in Physics (Material Science)	Level 3

The admission procedure for M.Chem.Engg., M.Tech. and M.Pharm. courses will be conducted after declaration of GATE/GPAT results. Candiadates 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 course must have obtained aggregate 60% of the marks or equivalent CGPA [55% of the marks or equivalent CGPA for the backward class candidate only from Maharashtra State] 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 only from Maharashtra State] are necessary at the qualifying examination. The admission of candidate not fulfilling the admission criteria may be cancelled at any time during the course.

In case the candidate is admitted to a course/ branch other than the one in which s/he has obtained qualifying Bachelor's degree, s/he 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 duration of test shall be 01 hour.

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 shall be conducting their research work leading to a Degree under any type of sponsored projects (Govt. or Private).

The candidates who have cleared the qualifying examination in one sitting will be preferred.

3.3.4 APPLICATION PROCEDURE FOR MASTER'S COURSES

For admissions at the ICT for any of the Master's courses, a candidate should obtain appropriate application form(s) for the course to which he/she is seeking admission; along with Handbook.

(Refer time schedule for each of the following stages displayed on ICT website www.ictmumbai.edu.in)

3.3.4.1 Step I: Purchase of Application Form

The candidate shall purchase and fill the appropriate application form/s, separate for each course of choice and separate for Full time and Sponsored courses, namely,

M.Chem.Engg. M.Pharm.

M.Tech. (each branch separately)

M.E. (Plastic Engg.)

M.Sc. (each branch separately)

The admission form and Handbook will be available for sale at the ICT counter (11 a.m. to 4 p.m.) by cash payment expect on Sundays, 2nd & 4th Saturday and Public Holidays. The fees for application along with Handbook are given elsewhere in this Handbook.

The forms may also be ordered by post or downloaded from the ICT web site, www.ictmumbai.edu.in. The payment, while ordering by post, should include the amount equal to the **"By Speed Post"** amount and be made only by a **Pay Order/DD** of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of **"INSTITUTE OF CHEMICAL TECHNOLOGY, Mumbai",** payable at Mumbai and it is non-refundable and non-transferable under any circumstances.

Payment by cheque or money order will not be accepted.

The admission form requested by post, will be sent by **'Speed Post'** along with the Handbook.

3.3.4.2 Step II: Submission of Application Form

All the relevant entries in the application form must be completed in legible handwriting or may be typewritten. 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, by the last date notified, at ICT counter or sent to the ICT by Post/ Courier, etc. along with a **Pay Order/DD** of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of **"INSTITUTE OF CHEMICAL TECHNOLOGY, Mumbai",** payable at Mumbai and it is non-refundable and non-transferable under any circumstances. **Payment by cheque or money order will not be accepted.**

The application form has a tear-off receipt at the bottom with the application number. The receipt should be filled in by the candidate and shall be signed and stamped by the clerk at the counter while accepting the form. **This receipt should be preserved and the application number must be stated for any future correspondence.**

Applications received after the due date will not be considered for generating merit list. ICT is not responsible for the delay occurred by Post/ Courier, etc. 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 3.3.3 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 SC/ ST 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.

The photocopies of certificates or documents attached to the application form SHOULD BE ATTESTED by the Principal of the College or Gazetted Officer or Special Executive Magistrate or Head Master of a Secondary School or teaching staff of a Government /Govt. Aided College / Polytechnic not below the rank of a Lecturer/ Assistant Professor.

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. HSSC (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 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 31st March 2017. (In addition to the documents mentioned in Sr. No. I)
IV	Backward Class Candidates belonging to OBC Category	Cast Certificate issued by Central Government

Original certificates should not be attached with the application form. However, those must be made available at the time of admission, failing which the admission cannot be granted.

3.3.5 Rules and Regulations about Reservation

Reservation in admission only for SC/ST categories on All India basis is applicable to all the Masters' courses M.Chem.Engg., M.Pharm., M.Tech. (all branches), M.E.(Plastic Engg.), M.Sc., as per the Government norms.

3.3.5.1 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 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.

3.3.6 Fees, Concessions, Cancellations and Refund

3.3.6.1 Fees prescribed:

The candidates admitted during 2017-18 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 :

POST GRADUATE (M. CHEM. ENGG., M. TECH., M. PHARM., M. E. (PLASTIC ENGG.)

Sr. No.	Details	Open and All reserve category students Fee for 1st Year (Rs.)	Fees for 2nd Year (Rs.)
1.	Library Deposit	2,000/-	-
2.	Fees	70,595/-*	70,595/-*
TOTAL		72,595/-	70,595/-

***Note: Contingency amount for Masters students admitted under various fellowships will be as per the norms of respective sponsoring funding agencies. Other candidates have to pay the Contingency amount of Rs. 12,000 added in fees).**

Fee structure for M.Sc. (Physics/Chemistry) Courses at ICT for the academic year 2017-18

Sr. No.	Details	Fee for 1st Year (Rs.)
1.	Library Deposit	2,000/-
2.	Fees	70,595-
TOTAL		72,595 /-

- **The fees for M.Sc. by papers in Engineering Mathematics are Rs. 42,981/- per year..**

Notes:-

a) 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) Candidate who is Domicile of Maharashtra state and belonging to Backward Class category, if admitted, will be eligible for fee concessions as applicable by Maharashtra State rules.

c) The SC/ST Candidates belonging to 'other than state of Maharashtra' will have reservation in admission only and they will have to pay full fees at the time of admission. They should submit their fee concession claims to their respective state Govt. through ICT office. If and when their fee concession amount is received, they will be given reimbursement of the due fees paid.

d) Candidates claiming fee concession under Backward Class category shall produce the Caste Validity Certificate at the time of submission of application form. Candidates claiming for fee concession under OBC, SBC, VJ/ DT NT(A), NT(B), NT(C) and NT(D) category shall also produce Non-Creamy layer certificate Valid up to 31st March 2017.

e) Hostel Fees shall be charged additionally in case of candidates opting for hostel accommodation (the details are given in Section on Hostels).

f) Vide letters no. जा.क्रं./स.आ.स.क/मु.श./व्या.प.आ./अ.जा.फ्रिस्कॉ/2015-16@5012 dated 17th August, 2015 received form Assistant Commissioner, Social Welfare Department, Mumbai city and जा.क्रं./

सकआ/शिक्षण/रतंसं/2015-16 पुणे 2164 dated 11th August, 2015 received form 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."

3.3.6.2 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 creditedto 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.

3.3.6.3 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.

3.3.6.4 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 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:

1) Academic session means start of lectures, which will be displayed on the ICT website and Notice Board.

2) For calculation of amount on the pro-rata basis, one month shall be treated as one unit.

3) 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.

3.4 DOCTOR OF PHILOSOPHY (Ph.D.) PROGRAMMES

3.4.1 Courses of Doctoral Studies

Table 3.4.1 shows the 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 (Doctor of Philosophy) DEGREE COURSES

No.	DEGREE	COURSE
1.	Ph.D. (Tech.) in Technology	Bioprocess Technology
2.		Chemical Engineering
3.		Dyestuff Technology
4.		Fibres and Textile Processing Technology
5.		Food Biotechnology
6.		Food Engineering and Technology
7.		Green Technology
8.		Nano Technology
9.		Oils, Oleochemicals & Surfactants Technology
10.		Perfumery and Flavour Technology
11.		Pharmacy@
12.		Pharmaceutical Technology
13.		Polymer Engineering and Technology
14.		Surface Coating Technology
15.		Plastic Engineering
16.		Civil Engineering
17.		Electrical Engineering
18.		Electronics Engineering
19.		Mechanical Engineering
20.	Ph.D. (Sci.)	Biochemistry
21.		Biotechnology
22.		Chemistry
23.		Food Science
24.		Mathematics
25.		Physics
26.		Textile Chemistry

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.

@Ph.D. (Tech) in Pharmacy is offered in four different branches: (i) Pharmaceutics, (ii) Pharmaceutical Chemistry, (iii) Pharmacology and (iv)Pharmacognosy. Candidates shall fill up a single form for all these courses. 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 - 15) 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 & Research.
Candidates admitted to Ph.D. (Tech.) in Technology (Sr. No. 16 - 19) conduct research under the recognized faculty from the Department of General Engineering.
There will be combined entrance test for Ph.D Science in Biotechnology (Sr No. 21) and Ph.D Science in Biochemistry (Sr No. 20). Shortlisted Candidates will be eligible for admission to Ph.D.. Science Biotechnology (Sr No. 21) and Ph.D Science 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 & 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 & Textile Processing Technology. [See Section 3.4.3.1]
Note: A Single form has to be filled for Ph.D Science in Biotechnology (Sr No.21) and Ph.D Science in Biochemistry (Sr No.20). Candidates should mention Biotechnology/ Biochemistry on the Form.

3.4.2 Fellowships for Doctoral Programmes

3.4.2.1 Inspire Fellowship from Department of Science and Technology, Govt.of India

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 www.inspire-dst.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.

3.4.3 Eligibility Criteria for the Admissions:

3.4.3.1 - A Eligibility Criteria for Admission to Ph.D. (Tech.)/ Ph.D. (Sci.)

For **Ph.D (Tech.)** course 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/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.)** 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).

For **Ph.D. (Tech.)** courses at Sr. No. 3, 4 and 7 -15 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.)** course 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.)** course at Sr. No. 6 in Table 3.4.1 must have passed the

i) Bachelor's degree (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.)** courses at Sr. No. 16-19 in Table 3.4.1, the candidate must have passed the Master's degree examination in Mechanical / Production / Industrial / Thermal / Machine design / Machine tools / Automobile / Material Science / Electrical / Power systems / Control systems / Instrumentation / Civil / Structural / Environmental / Civil and Water management / Transportation enginerring, construction / construction management / Geotechnical / Water Resources from any UGC recognized university as equivalent thereto with 60% marks or equivalent CGPS (55% marks or equivalent CGPA in case of reserved categorie).

For **Ph. D. (Sci.)** courses 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.)** courses 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.)** course 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.)** course at Sr. No. 26 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).

Further, candidates from any of these streams must clear the written test and interviews of the institute which are based on the syllabus of M.Sc. (Textile Chemistry).

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 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 (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.) including GATE/ GPAT- JRF qualified candidates shall be based on the score in the qualifying examination, performance in the written test and interview (if short listed in written test) conducted by the Institute.

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.

3.4.3.1 - 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 statuary 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.

3.4.3.1 - 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.

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 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.

3.4.3.1 - 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.

1. The candidate should have minimum 2 years of industrial experience.
2. Industry should have a well-equipped Research & 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 & 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 & 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 & 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 & 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.

3.4.3.1 - 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) 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/NIT/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 31st 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 from academic year 1st July, 2009 will have to complete the course work.
2. Every Ph.D. candidate will complete two Credit courses (theory) and three Audit courses (theory) during the entire duration of Ph.D. The total credit points should be minimum 15.
3. All the course work must be completed before submission of synopsis for the thesis.
4. The selection of the credit and audit courses will be by mutual consultation between the Candidate and the Research Supervisor.
5. The candidate can select any courses offered by ICT that he/ she had not undergone earlier at ICT or elsewhere, either as credit or audit courses.
6. 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.
7. For the audit courses, a minimum 75% attendance is compulsory.
8. Each course instructor will issue an Attendance certificate in a prescribed format to the candidate at the end of the semester on completion of the course.
9. Submission of copies of attendance certificates will be compulsory at the time of submission of synopsis of the thesis for the Ph.D. Degree.
10. The Attendance Certificates for the audit courses will be maintained by candidate and sent to the Academic Office through the Supervisor and Head of the Department at the time of the submission of the synopsis.

3.4.3.1 - F. Admission to Ph.D. (Sci.) and Ph.D. (Tech.) Degree for Candidates having National Fellowships

Note: Provisional admission will be given to the candidates who are eligible to receive fellowship e.g. DST-INSPIRE, Rajiv Gandhi National Fellowship (RGNF) for SC/ST/OBC candidates etc. and comply eligibility criteria of admission at ICT. Admission of the candidate will be confirmed after receipt of fellowship award letter from that agency. In this case, candidate will be required to submit such fellowship award letter within maximum period of six months.

3.4.3.2 Ph. D. Programmes under ICT-DAE Centre and UGC Netowrking Centre in Chemical Engineering

Ph.D. (Tech.) Programme in Chemical Engineering under ICT-DAE Centre for Knowledge Based Engineering

This Ph.D. programme will induct maximum 20 students per year.

In view of the success of the collaborative programme through the Centre for Knowledge Based Engineering (KBE) after, BARC and IGCAR enlarged the scope of collaboration by establishing the ICT-DAE Centre for Chemical Engineering Education and Research that synergizes the strengths of these organizations. ICT has proven track record in training high quality manpower and in conducting research in

Chemical Engineering and Technology. On the other hand, BARC and IGCAR have demonstrated over decades their ability to conduct multi-disciplinary, mission oriented R&D leading to a large number of indigenous and innovative chemical engineering processes, equipment and instruments, and technologies. DAE and ICT therefore entered into an MoU to establish the ICT-DAE Centre for Chemical Engineering Education and Research, to cover the following activities.

(A) Instituting an interdisciplinary Ph.D. programme in Chemical Engineering.

(B) Undertaking R&D projects in the areas of common interests and related to nuclear reactor, fuel cycle and advanced technologies.

The ICT-DAE Ph.D. Degree Programme is designed to identify candidates with strong potential for a career in Research and to Develop Human resources for the India's Nuclear Energy Programme. The ICT-DAE Centre for Chemical Engineering Education and Research has the following objectives:

(i) To provide avenues for Doctoral degrees to Ph.D. scholars with talent and aptitude for carrying out advanced research and development activities in Science and Technology.

(ii) To furnish a multidisciplinary, flexible and innovative Ph.D. research programme in Chemical Engineering 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 evolve a symbiotic relationship between the ICT and DAE Institutions in such a way that it enables the Collaborative Programme to grow and develop, and in turn ensures that research projects of relevance to the objectives of DAE research institutions are integrated with creative and innovative content.

(iv) To select students on the basis of an all-India test and subsequent interview jointly conducted by ICT and BARC/IGCAR.

(v) To promote effective linkages on a continuing basis between ICT, BARC and IGCAR and the Industry for joint research projects and training programmes and other academic activities related to these Institutes. The expertise and experience so gained shall be shared with other Universities in the country at large.

(vi) To disseminate the new knowledge in the form of publications, patents, theses, seminars and conferences. Effort will also be made to help the society and the industry and hence the economy of the country.

The Ph.D. scholars will take up research projects primarily defined by BARC and IGCAR. However, there will be a certain degree of flexibility for selecting research projects outside the areas of relevance to DAE. To take advantage of the excellent laboratory and library facilities at the DAE institutions, the faculty and students will be provided access to conduct experiments and use of the library and computational facilities at the DAE institutions.

The research projects will be defined by the collaboration team, enumerating the work methodology, the components of research to be done at ICT and BARC / IGCAR, the starting point and the end goals and the performance indicators.

1. Selection of candidates:

1.1 Qualifications

a) Master's degree in Chemical Engineering, Metallurgical and Mechanical Engineering

The engineering post-graduate candidates should have a good academic record (more than 60 % marks) or equivalent CGPA and above at the graduation /post-graduation level. Although GATE is not essential, qualifying GATE with minimum 85 percentile would be desirable.

b) Bachelor's degree in Chemical Engineering, Metallurgical and Mechanical Engineering

The engineering graduate candidates should have a good academic record with more than 65 % marks or equivalent CGPA and above at the graduation/post-graduation levels. The Engineering graduates should have cleared GATE examination with at least 85 percentile score.

c) M.Sc. degree in Chemistry and Physics.

d) The Science post-graduate students should have a good academic record with minimum 65% Mathematics marks or equivalent grade in graduate and post graduate examinations.

Candidates qualified in CSIR/NET examination will get preference.

(In exceptional cases candidates having B.Sc. qualification with minimum 70% marks and among top three rank in the qualifying examination will be considered.)

e) DAE employees with above qualifications

DAE scientists and employees in DAE establishments with above qualifications will be considered only on recommendation from respective DAE establishment's competent authority.

2. Selection process:

2.1 The candidates will be selected strictly by merit on the basis of performance in the all India written test and interview conducted jointly by ICT faculty and DAE experts. External experts can be invited for the interviews.

2.2 The candidate must score a minimum percentage of 50% in the written examination of the Institute to qualify for the interview.

2.3 The list of qualifying candidates will be prepared on the basis of marks in written test and interviews in 70:30 ratio.

3. Course Work and Registration:

The Details of the course work prescribed to candidates with different backgrounds is given in guidelines separately.

3.1 For post-graduates in Engineering, the rules and regulations of Ph.D. Programme are the same as other candidates pursuing Ph.D. in the Institute. (See 3.4.3.1 A)

3.2 The Engineering graduates and Post-graduates in Science will initially register for M. Chem. Engg. and M.Tech in Chemical Engineering degrees, respectively, and will have to complete the course work with FIRST class before applying for transfer of registration to Ph.D. degree in Chemical Engineering. They will follow the ICT's rules for transfer of registration to Ph.D. degree.

3.3 The Post-graduate candidates in Science qualified in CSIR/NET examination can be considered for the selection without written test. However, they will have to appear for the interviews. On selection they will have to clear the course work as prescribed in guidelines for the programme.

Since the DAE programme has an objective of developing human resources in Chemical Engineering, the selection of the candidates is done with utmost care. They are also emphasized about successful completion of the course work.

3.4 DAE scientists/engineers with Master's degree holders in Chemical/Mechanical /Metallurgical Engineering disciplines can be considered for admission to the ICT-DAE programme of Ph.D. in Chemical Engineering provided they clear the Institute's entrance examination and interview.

3.5 The candidates with B. Tech./ M.Sc. degree from DAE establishments will be considered for the programme on a case- to-case basis, only if they have completed successfully the DAE-BARC Training School programme and/or completed equivalent course work in other recognized and reputed institutes such as IITs, HBNI, to get sufficient number of credits as prescribed by the Institute for Master's degree course work. These candidates will have to clear the entrance examination and interviews. The DAE candidates may be permitted to carry the credits of equivalent course work if it is completed in reputed Government/AICTE/ICT recognized Institutions, such as IITs, NITs, HBNI, BARC training school, etc. so long as the course work is certified by the competent authority of such Institution. Such candidates are exempted from taking up the course work required for the Ph.D. programme. But these candidates should be encouraged to take audit courses related to their own research topic.

3.6 Only after the successful completion of the course work the candidate's registration for Ph.D. programme will be confirmed. The certificate for completion of Course work will be mandatory for final registration to the Ph.D. degree programme.

3.7 The Registration and progress review of the candidates will follow the same procedures as the other Ph.D. candidates registered in the Institute.

3.8 Any candidate who completes the course work as specified against each category and completes minimum of 1 year of Research project can be considered for award of M. Tech. degree in Chemical Engineering.

Course work- Typical List of subjects to be taken by Science Post Graduates, Engineering Graduates & post-graduates:

Material and Energy Balance Computations, Chemical Reaction Engineering, Momentum Transfer, Industrial and Engineering Chemistry, Biochemical Engineering, Heat Transfer, Generation and Transmission of Power, Advanced Separation Processes, Mass transfer, Electrical Engineering and Electronics, Nuclear Chemical Engineering, Unit Operations, Applied Mechanics and Strength of Materials, Structure - Property Relationships, Engineering Graphics, Process simulation and optimization, Materials Physics and Chemistry, Process simulations, Materials Processing and fabrication technology, Advanced Reactor Engineering, Nuclear chemistry, Classical and Statistical Quantum Mechanics, Statistical methods of analysis, Transport phenomena, Instrumental methods of analysis, Advanced Mass Transfer, Sources of energy, Nuclear Reactor Theory, Radiation chemistry, Advanced Chemical Engineering, Project Engineering Management, Thermodynamics and Economics

Guidelines for Ph.D. (Tech.) in Chemical Engineering under ICT-DAE Centre

Category 1 : B.E. in Chemical Engineering / B.Tech (Chem.Engg.)/ B.Chem.Engg. / B.Tech.(Chem.Tech.) (ICT)

Required Courses:

(i) Course work for M.Chem.Engg. (credit courses) (to be completed in 2 semesters from the date of admission).

(ii) 4 Credit courses related to Nuclear Engineering (to be completed in 3 semesters from the date of admission).

Nuclear and Reactor Physics	Chemistry of Radionuclides
Nuclear Chemical Engineering	Material Science in Nuclear Engineering

Category 2: Bachelor's degree in Chemical Engineering + Course work in BARC Training School
Required Courses:

(i) 4 credit courses including one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC (to be completed in 2 semesters from the date of admission).

(ii) If the candidate has completed equivalent course work in reputed and recognized Institute such IIT, the credit transfer can be permitted for the candidates from DAE establishments.

Category 3: Bachelor's degree in any branch of Engineering (Mechanical/Metallurgical) (except Chemical Engineering / Chemical Technology) + Course work in BARC Training School.

Required Courses:

8 courses and one Seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC (to be completed in 4 semesters from the date of admission).

Applied Mathematics - I, II and III	Material and Energy Balance Computations
Momentum and Mass transfer	Energy Engineering
Chemical Engineering Operations	Heat Transfer
Chemical Reaction Engineering	Design and Analysis of Experiments

Category 4: Master's degree in Chemical Engineering / Master's degree in Chemical Technology (ICT)
Required Courses:

4 credit courses related to nuclear Engineering(to be completed in 2 semesters from the date of admission)

Nuclear and Reactor Physics	Nuclear Chemical Engineering
Chemistry of Radionuclides	Material Science in Nuclear Engineering

Category 5: M.Tech. Degree in Chemical Engineering from HBNI + Course Work in BARC Training School

Required Courses: NIL

Category 6: M.Tech. Degree in any branch of Engineering (Mechanical/Metallurgical)(except Chemical Engineering / Chemical Technology) from HBNI + Course Work in BARC Training School

Required Courses:

(i) 5 credit courses and one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC (to be completed in 2 semesters from the date of admission).

Category 7: M.Sc. Degree in Physics / Chemistry / Mathematics + Course work in BARC Training School
Required Courses:

(i) 10 credit courses and one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC (To be completed in 4 semesters from the date of admission).

Category 8: M.Sc. Degree in Physics / Chemistry/ Mathematics

Required Courses:

(i) 14 credit courses and one seminar in Chemical Engineering to be decided by the supervisor and approved by the coordinator followed by PGPC. The typical courses will be those listed below (similar to Category 9) (to be completed in 4 semesters from the date of admission).

Category 9: B.Sc. Degree in Physics / Chemistry / Mathematics

Required Courses:

(i) Typically 20 credit courses related to comprising of: (to be completed in 4 years from the date of admission).

(a) B. Chem. Level courses (Credit courses)

(b) M. Chem. Level Courses (Credit courses)

Advanced Momentum transfer	Thermodynamics of Phase Equilibrium
Advanced Heat Transfer	Advanced Separation Processes
Advanced Mass Transfer	Advanced Reactor Engineering
Advanced Reaction Engineering	

(c) Nuclear Engineering Level courses (audit courses)

Nuclear and Reactor Physics	Nuclear Chemical Engineering
Chemistry of Radionuclides	Material Science in Nuclear Engineering

3.4.4 Application Procedure for Ph.D. Courses

For admissions at the ICT for all the Ph.D. courses, a candidate should obtain appropriate application form(s) for the course to which he/she is seeking admission; along with Handbook.

(Refer time schedule for each of the following stages displayed on ICT Notice Board and website www.ictmumbai.edu.in)

3.4.4.1 Step I: Purchase of Application Form

The candidate shall purchase and fill the appropriate application form/s, separate for each course of choice, namely,

Ph.D. (Tech.) (separate for each course)

Ph.D. (Sci.) (separate for each course)

The admission form and Handbook will be available for sale at the ICT counter (11 a.m. to 4 p.m.) by cash payment expect on Sundays, 2nd & 4th Saturday and Public Holidays. The fees for application along with Handbook are given elsewhere of this Handbook.

The forms may also be ordered by post or downloaded from the ICT web site,www.ictmumbai.edu.in. The payment, while ordering by post, should include the amount equal to the **"By Speed Post"** amount and be made only by a Pay Order/DD of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of **"Institute of Chemical Technology, Mumbai",** payable at Mumbai and it is non-refundable and non-transferable under any circumstances. **Payment by cheque or money order will not be accepted.** The admission form along with a copy of the Handbook will be sent by **Speed Post** on the address provided by the candidate.

3.4.4.2 Step II: Submission of Application Form

All the relevant entries in the application form must be completed in legible handwriting or may be typewritten. Incomplete forms will be rejected and no correspondence will be made in this regard.

Writing contact details such as Mobile No./ Telephone No. and email address in the application form is essential.

The duly filled form along with attested photocopies of required certificates to substantiate the claims made in their application form should be submitted, by the last date notified, at ICT counter or sent to the ICT by Post/ Courier, etc. along with a **Pay Order/DD** of any Nationalized/ Scheduled/ Private Sector Commercial Bank drawn in favour of **"Institute of Chemical Technology, Mumbai",** payable at Mumbai and it is non-refundable and non-transferable under any circumstances. **Payment by cheque or money order will not be accepted.**

The application form has a tear-off receipt at the bottom with the application number. The receipt should be filled in by the candidate and shall be signed and stamped by the clerk at the counter while accepting the form. This receipt should be preserved and the application number must be stated for any future correspondence.

Applications received after the due date will not be considered for generating merit list. ICT is not responsible for the delay occurred by Post/ Courier, etc. 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 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 SC/ ST categories will be required to submit The Caste Certificate, the Caste/ Tribe Validity Certificate wherever 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.

The photocopies of certificates or documents attached to the application form should be attested by the Principal of the College or Gazetted Officer or Special Executive Magistrate or Head Master of a Secondary School or teaching staff of a Government /Govt. Aided College / Polytechnic not below the rank of a Lecturer.

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 3.4.4.3: 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) mark sheet,
		2. HSSC (Std. XII) mark sheet,
		3. All Mark sheets of Bachelor's Course
		4. Bachelor's degree certificate
		5. All Mark sheets of Master's Course
		6. Master's degree certificate
		7. College Leaving / Transfer certificate
		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 31st March 2017. (In addition to the documents mentioned in Sr. No. I)
IV	Backward Class Candidates belonging to OBC Category	Cast Certificate issued by Central Government

Original certificates should not be attached with the application form. However, those must be made available at the time of admission, failing which the admission cannot be granted.

The Entrance examination for all Ph.D. (Science) courses will be conducted after declaration of results from University of Mumbai. 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 (70% weightage) and oral examination/interviews (30% weightage). Only final list will be displayed on the website as per merit. Other lists of eligible candidates will

be displayed as per alphabetic order. Candidates are responsible to visit website for updates for attending interview; no intimation will be made to candidates. List of candidates admitted to various course will be displayed at ICT website. ICT reserves the right to cancel the admission at any time, if it is found that the candidate does not full fill the required criteria.

3.4.5 Rules and Regulations about Reservation

Reservation in admission for SC/ST categories is applicable to all Ph.D. courses (all branches) as per the Maharashtra government norms.

3.4.5.1 Caste Certificate and Caste/ Tribe Validity Certificate.

a) 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.

b) 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.

3.4.6 Fees, Concessions, Cancellations and Refund

3.4.6.1 Fees prescribed:

Fee structure for Ph.D. Courses at ICT for the academic year 2017-18

Sr. No.	Details	Open and All reserve category students Fee for 1st Year (Rs.)	Fees for 2nd Year (Rs.)
1.	Library Deposit	2,000/-	-
2.	Fees	89,345/-*	89,345/-
TOTAL		91,346/-	89,345/-

***Note: Contingency amount for Ph.D. Students admitted under various fellowships will be as per the norms of respective sponsoring funding agencies. Other candidates have to pay the Contingency amount of Rs. 20,000 added in fees.**

Notes:-

a) 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) Candidate, who is Domicile of Maharashtra state and belonging to Backward Class category, if admitted, will be eligible for fee concessions as applicable by Maharashtra State rules.

c) The SC/ST Candidates belonging to 'other than state of Maharashtra' will have reservation in admission only and they will have to pay full fees at the time of admission. They should submit their fee concession claims to their respective state Govt. through ICT office.

d) Candidates claiming fee concession under Backward Class category shall produce the Caste Validity Certificate at the time of submission of application form. Candidates claiming for fee concession under OBC, SBC, VJ/ DT NT (A), NT (B), NT(C) and NT (D) category shall also produce Non-Creamy layer certificate Valid up to 31st March 2017.

e) Hostel Fees shall be charged additionally in case of candidates opting for hostel accommodation (the details are given in Section on Hostels).

f) Vide letters no. जा.क्रं./स.आ.स.क/मु.श./व्या.प.आ./अ.जा.फ्रि.स्कॉ/2015-16@5012 dated 17th August, 2015 received form Assistant Commissioner, Social Welfare Department, Mumbai city and जा.क्रं./सकआ/शिक्षण/रतंसं/2015-16 पुणे 2164 dated 11th August, 2015 received form 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."

3.4.6.2 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 course, whichever is earlier.

3.4.6.3 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.

3.4.6.4 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 10 days from the date of admission	Entire fee less Rs.1000/-
2	Request received within 30 days from the date of admission	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 admission	No refund (except Library Deposit)

Note: For calculation of amount on the pro-rata basis, one month shall be treated as one unit.

3.5.1 POST GRADUATE 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 two-year Semesterised course 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).

Type NO.	ELIGIBILITY AND TYPE OF CANDIDATE	SEATS
1.	Candidates registered for Ph.D. (Tech.)/ Ph.D. (Sci.) in the ICT, who have completed the course work required for Ph.D. 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, who have completed the course work required for Ph.D. and have spent at least a year in their Ph.D. programme	10
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 & 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 **post-graduate 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. 15,000/-	Rs. 45,000/-

All Rights regarding the admissions at the ICT are reserved with the Vice Chancellor, ICT.

3.5.2 CERTIFICATE COURSE IN SAFETY AND RISK MANAGEMENT

This course is designed for all the post-graduate reserchers in the Institute of Chemical Techmology. It is also suitable for young professionals employed in the chemical industry.

In this course, several useful topics are taught : safety and risk management; materials hazards; hazard evaluation and risk assessment techniques; laboratory safety; handling, storage and transportation

of hazardous chemicals; safety devices; utilities; radiation safety; environmental impact assessment; management practice in SHE plant operation; fire safety; and introduction to REACH and OSHA.

This course commenced in July 2015 and is taught in every semester on Saturdays only. The faculty members are renowned national and international experts from the academia and industry.

3.6 EXAMINATION PATTERN

3.6.1 Semester Examinations

3.6.1.1 Examination Schedule: All the courses at Bachelor's and Master's level are Semesterised and credit based from 2009-10. There is a continuous evaluation of the students on grade basis through internal assessment. For B.Chem.Engg./ B.Pharm./ B.Tech./ M.Chem.Engg./ M.Pharm./ M.Tech./ M.E.(Plastic Engg.)/ M.Sc. (by papers), the Odd semester (Semester-I, III, V and VII) examinations shall be held in the month of December/ January and Even. Semester (Semester-II, IV, VI and VIII) examinations in the month of April/May every year.

Students are advised to read the Regulation R-9, given below, carefully.

3.6.1.2 Application Forms: The application form for appearing the examination/s, must be submitted to the Accounts Section along with prescribed fees before the specified dates, which are notified well in advance on the ICT Notice Board. Examination forms will be accepted after the last date only up to one week with late fees. Thereafter, it is not obligatory for the institute to accept the forms.

3.6.1.3 No examination form shall be accepted unless the examination fee is fully paid in cash.

3.6.1.4 Master's courses (Regular 2 years) have theory courses in Semester-I and II. Those who take admission to Master's courses (Sponsored 3 years) may split those courses over first two years. That is, Semester-I courses may be taken in Semester-I & III, and Semester-II courses may be take in Semester-II & IV.

3.6.1.5 Doctoral courses students have to undergo minimum 2 Theory Credit courses and 3 Audit Courses. They will have to follow the same procedure of applying for admission to the examination in the subjects selected by them for credit courses during the respective examination schedule. Doctoral students are therefore required to submit the list of their choice of Credit and Audit courses with clear mention of course, semester and subject code within 15 days of their admission to the Academic Office. The form may be downloaded from ICT intranet.

Candidate can apply for change of credit / audit course(s) through his/her Ph. D. supervisor and the Head of the Department to Dean (AP) with in the first two weeks of start of academic session. Decision taken by Dean (AP) will be binding on student.

3.6.1.6 Repeat Semester Examinations (Regulation R-14): To provide an avenue to improve the performance of the students, a provision of repeat semester examination is made. These examinations for Bachelor's and Master's courses are generally held within a month after declaration of the results of regular semester examinations. Those who want to take repeat examinations should apply for the same with the necessary fee in a stipulated period; notice for the same shall be displayed on the ICT Notice Board.

3.6.1.7 There is a provision of amendment of result of an examination (Regulation R-13). For these, separate applications should be submitted to the office within the prescribed time.

3.6.1.8 The students undergoing theory courses at all levels (UG, Master's and Ph.D.) may please note that a provision exists for them to see their assessed answer books for Continuous Evaluations, Mid-Semester and Final Semester examinations. They may discuss their marks obtained with the concerned teacher within 3 days after a notice is put up by the teacher displaying the marks awarded, with prior appointment at the convenience of the teacher.

3.6.2 Regulation Relevant to Examination

R.9 Credit System and Mode of evaluation

1. Introduction

All the courses at ICT are credit based and the evaluation is grade based.

Credit system is a systematic way of describing an educational programme by attaching credits to its components. The definition of credits may be based on different parameters, such as student workload, learning outcomes and contact hours. It is a student-centric system based on the student workload required to achieve the objectives of a programme. It should facilitate academic recognition of the courses and mobility of the students. Credits assignment is based on the principle that Credits can only be obtained after successful completion of the work required and appropriate assessment of the learning outcomes achieved. As per the AICTE norms 2L/week of lectures are 2 credits, while 2h/week of practicals/tutorials are1 credit. This may be taken as the basis.

Student workload consists of the time required to complete all prescribed learning activities such as attendance at lectures/practicals, seminars, projects, etc. Credits are allocated to all the educational components of a study programme and indicate the quantity of work each component requires to achieve its specific objectives.

Evaluation is an important component of any teaching-learning process. The Institute gives emphasis on continuous evaluation with considerable freedom to the teacher in deciding the mode of evaluation of the students. The performance of the student is documented by a grade at the end of the semester. The grading scale ranks the students on a statistical basis. Therefore, statistical data on student performance is a prerequisite for applying the grading system.

2. Course Credits

In general a certain quantum of work measured in terms of credits is 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.

There are mainly two types of courses in the Institute - lecture courses and laboratory courses. Lecture courses consist of lecture (L) and tutorial (T) hours. Laboratory courses consist of practical (P) hours. The credit (C) for a course is dependent on the number of hours of instruction per week in that course, as given below:

(1) 1h/week of lecture (L) or tutorial (T) = 1 credit

(2) 2h/week of Practicals (P) = 1 credit

(3) Credit (C) for a theory course = No. of hours of lectures per week + No. of hours of tutorials per week = L + T

(4) Credits (C) for a Laboratory course = ½ x No. of hours of laboratory course per week

Credits will be assigned to In-plant, Seminar, Projects and other mandatory course requirements also and these will be mentioned in the respective syllabi. There may be some non-credit requirements. A student is required to earn credits as mentioned in the syllabus.

3. Evaluation

3.1 Weight ages of different modes of assessments shall be as under.

3.2.2.1 Credit System and Mode of Evaluation

	In-Semester evaluation		End-Semester-Exam	Components of continuous mode
	Continuous mode	Mid Semester-Exam		
Theory	30%	30%	40%	Quizzes, class tests (open or closed book), home assignments, group assignments, viva voce assignments, discussions
Practicals	50%	-	50%	Attendance, viva -voce, journal, assignments, project, experiments, tests

* **Subject to change**

3.2 In-Semester Evaluation:

a. It is expected that the teacher would conduct at least two assessments under the continuous mode in a Semester.

b. The teacher will announce at the beginning of the respective course the method of conducting the tests under the continuous mode and the assignment of marks

c. In-semester performance of all students should be displayed and sent to the academic office by the teacher at least 15 days before the end-semester examination.

d. For the theory courses, there will be one mid-semester test for each course to be held as per the schedule fixed in the Academic Calendar.

e. For mid -semester examinations in theory papers, duration of examination will be 1 hour for 3 credit courses and 2 hours for 4 credit courses.

3.3 End-Semester examination:

a. The End- semester examination will cover the full syllabus of the course and will be conducted as per the Institutional time table at the end of each semester.

b. For End- semester examinations in theory papers, duration of examination will be 1 hour for 3 credit courses and 2 hours for 4 credit courses

3.4 Passes and Failures

a. The candidates who obtain 40% and more marks of the total marks of a subject head shall be deemed to have passed the respective subject head.

b. The candidates who obtain marks less than 40% of the total marks of a subject head shall be deemed to have failed in the respective subject head (Grade FF).

3.5 Grades:

a. The performance of a student shall be documented by a Letter grade. Each letter grade has a Grade point associated with it. The Grades and Grade points shall be assigned to each head of passing and both will be indicated in the mark-list of the semester examination.

b. The total marks (in-semester + end-semester) of a candidate in a subject head are converted into a letter grade, based on the relative (and sometimes the absolute) performance of the student.

Letter Grade	Grade Point
AA	10
AB	9
BB	8
BC	7
CC	6.5
CD	6
DD	5.5
EE	5

c. In view of our elite status 6 out of 10 CGPA will be first class. Thus (CGPA x 10) formula will be used to calculate % and class

Repeat examination in Practicals subject is permitted to the students in the following cases :

1. Candidate has obtained 50% marks in Continuous Assessment and appeared for regular End semester practical examination and Failed. (Continuous Assessment here means attendance, submission and evaluation of journals, assignments).

2. Candidate has obtained 50% marks in Continuous Assessment and could not appear for regular End Semester practical examination due to valid Medical reason and or family bereavement. (Continuous Assessment here means attendance, submission and evaluation of journals, assignments).

3. The candidates not fulfilling above two criteria will be given year drop.

   Distinction, (70%)

   First Class (60-69.99)

   Second Class (50-59.99)

   will be used like old ICT cut-out marks.

d. The grades to be allotted in the case of students who fail or do not appear at the end-semester examination shall be as under.

Letter Grade	Grade Point	Explanation
FF	0	The candidate fails in subject head. The candidate will be allowed to take end-semester repeat or subsequent examinations as per rule.
XX		The candidate has not kept term for the subject head due to attendance less than requisite. Further see 3.5(h) below. In the above cases, the candidate has to repeat the respective course by paying the fees.
I	0	The candidate has kept term for the subject head, has taken all the internal examinations with satisfactory performance, but has failed to take the end-semester examination or repeat examination due to genuine reasons. The candidate will be allowed to take end-semester repeat or subsequent examinations as per rule.

FR	0	The candidate has exhausted all the permissible chances to clear the end semester examinations. The candidate has to register for the respective semester again for all the subject heads or will be out of the respective degree course as per the rules.
DR	0	(i) The candidate hasn't participated in academic programme. (ii) The candidate has taken a drop for the subject head; - provided he/she intimates the same (i or ii) at least 7 days in advance of the commencement of the end-semester examination for the respective year.

e. Grades **FF** and **I** are place-holders only and do not enter into CPI/SPI calculations directly. These grades get converted to one of the regular grades after the end-semester examination.

f. A candidate with an **FR** grade is not eligible for any repeat examination in that course and has to re-register for that semester by paying the appropriate fees.

g. The grade I will not be continued beyond the permissible number of end-semester/repeat examinations [Refer to current Regulation R.9 (9) and R.9 (10)]. In the six consecutive exams conducted by the institute, irrespective of whether the candidate fails to take any of these exams.

h. **'XX' Grade:** The grade **XX** in a course is awarded if - (i) candidate does not maintain the minimum 75% attendance in the Lecture/Tutorial/Practical classes, (ii) candidate receives less than 20% of the combined marks assigned for continuous assessment and mid-semester examination, and (iii) candidate indulges in a misconduct/uses unfair means in the examination, assignments, etc., of a nature serious enough to invite disciplinary action in the opinion of the teacher.

   (Note: Award of the **XX** grade in the case of h (iii) above shall be done by Disciplinary Action Committee (DAC)).

i. The names/roll numbers of students to be awarded the XX grade should be communicated by the teacher to the Academic office as per academic calendar before the last date of submission of the application for end-semester examination.

3.6 Awarding the grades

The grading scale ranks the students statistically on the basis of the overall performance of the students of a given class in the given subject head. Therefore, statistical data on students' performance is a prerequisite for applying the grading system. While assigning grades in a given subject head, it is essential to know the average marks (AM) obtained by the students who have passed the subject head and the highest marks (HM) obtained in the same subject head.

1. **If the average marks (AM) obtained by the students who have passed the subject head is <60%, the interval AM shall be awarded grade CC and the other grades shall be decided as follows:**

   i. AA, AB, BB, and BC grades shall be decided between the AM and HM by dividing the range in equal intervals.

   ii. CD, DD and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals.

2. **If the average marks (AM) obtained by the students who have passed thesubject head is such that 60% £AM< 70%, the interval AM shall be awarded grade BC and the other grades shall be decided as follows:**

   i. AA, AB, BB grades shall be decided between the AM and HM by dividing the range in equal intervals.

ii. CC, CD, DD and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals.

3. **If the average marks (AM) obtained by the students who have passed the subject head is ³70%, the interval AM shall be awarded grade BB and the other grades shall be decided as follows:**

i. AA and AB

ii. BC CC, CD, DD and EE grades shall be decided between the AM and minimum marks required for passing the head (i.e. 40%) by dividing the range in equal intervals.

4. **SPI and CPI**

a) Semester Performance Index (SPI): The performance of a student in a semester is indicated by Semester Performance Index (SPI), which is a weighted average of the grade points obtained in all the courses taken by the student in the semester and scaled to a maximum of 10. (SPI is to be calculated up to two decimal places.)

A Semester Grade Point Average (SGPA) will be computed for each semester as follows:

$$SGPA = \frac{\left(\sum_{i=1}^{n} c_i g_i\right)}{\left(\sum_{i=1}^{n} c_i\right)}$$

Where

'n' is the number of subjects for the semester,

'ci' is the number of credits allotted to a particular subject, and

'gi' is the grade-points awarded to the student for the subject based on his performance as per the above table.

SGPA will be rounded off to the second place of decimal and recorded as such.

b) Cumulative Performance Index (CPI): An up to date assessment of the overall performance of a student from the time he entered the Institute is obtained by calculating Cumulative Performance Index (CPI) of a student. The CPI is weighted average of the grade points obtained in all the courses registered by the student since he entered the Institute. CPI is also calculated at the end of every semester (upto two decimal places).

Starting from the first semester at the end of each semester (S), a Cumulative Grade Point Average (CGPA) will be computed as follows:

$$CGPA = \frac{\left(\sum_{i=1}^{m} c_i g_i\right)}{\left(\sum_{i=1}^{m} c_i\right)}$$

Where

'm' is the total number of subjects from the first semester onwards up to and including the semester S,

'ci' is the number of credits allotted to a particular subject, and

'gi' is the grade-points awarded to the student for the subject based on his performance as per the above table.

CGPA will be rounded off to the second place of decimal and recorded as such.

c) The CGPA, SGPA and the grades obtained in all the subjects in a semester will be communicated to every student at the end of every semester / beginning of the next semester.

d) When a student gets the grade 'FF' or 'I' in any subject head during a semester, the SGPA and CGPA from that semester onwards will be tentatively calculated, taking only 'zero' grade point for each such 'FF' or 'I' grade. When the 'FF' grade(s) has / have been substituted by better grades after the repeat examination or subsequent semester examination, the SGPA and CGPA will be recomputed and recorded.

5. Repeat End-Semester Examination

5.1 For those candidates who fail in a subject head or are eligible for appearing at the repeat examination, Repeat End-Semester Examination will be conducted within one month from the declaration of the results of regular end-semester examination, as per Regulation R.14.

5.2 The marks obtained by candidates in the in-semester examinations (continuous assessment and periodic test) will be carried forward in such cases.

5.3 Grading the performance in the Repeat Examination: The grades will be assigned as per 3.5 and 3.6 above. However, for a candidate taking any repeat examination or subsequent regular semester examination or performance improvement examination shall be awarded one grade lower than that decided on the basis of the actual marks obtained; provided 'EE' grade obtained in such an examination shall remain 'EE'. For reference see the table below.

Grade obtained in repeat or subsequent end-semester examination	Grade to be assigned	Grade point
AA	AB	9.0
AB	BB	8.0
BB	BC	7.0
BC	CC	6.5
CC	CD	6.0
CD	DD	5.5
DD	EE	5.0
EE	EE	5.0

5.4 End-semester and repeat examination: Candidate's performance in these examinations will be displayed on proper notice board and after 3 days of such display the marks will be sent to the Academic Office. No revaluation of these examinations will be allowed.

6. Passing of a Semester examination

A candidate shall be declared as 'PASSED' any semester examination if he/she has

a. Cleared all heads of passing by securing grades EE or higher in all the heads;

b. Passed all the heads of passing such as project, seminar, training, etc as per the rules;

c. Satisfactorily completed all the mandatory requirements of the course;

d. Paid all the Institute dues;

e. No case of indiscipline pending against him/her.

7. Eligibility for the Award of a Degree

A candidate shall be declared eligible for the award of a degree, if he/she has cleared all the semester examinations as given in (6) above.

8. Allowed to keep terms (ATKT)

8.1 A candidate who has I grade in one or more heads of passing of an odd semester of an academic year shall be allowed to keep terms for the respective even semester.

8.2 A candidate shall be allowed to keep terms for the subsequent academic year if he/she has FF or I grades in not more than two heads of passing from all the heads of passing of the two terms of the previous academic year taken together. Such a candidate shall be declared as FAILED, ATKT.

8.3 A candidate who has not cleared Semester-I and II as per clause 6 above shall not be eligible to register for semester-V and VI.

8.4 A candidate who has not cleared Semester-III and IV as per clause 6 above shall not eligible to register for semester-VII and VIII

9. Repeating a course

9.1 A student is required to repeat the course of a subject head under the following situations:

(a) A student who gets an XX, FR, or DR grade in a course; or

(b) A student has exhausted all permissible chances to clear the subject head.

9.2 A candidate from second, third and fourth years who remains absent for the regular end-semester examination of a semester and the corresponding repeat examination for ALL SUBJECTS shall have to take fresh admission for the corresponding year; unless the candidate has dropped out / terminated from the course.

9.3 If a candidate at the Second, Third or Fourth year fails to pass any semester examination in not more than 4 consecutive examinations, including the repeat examinations, from the date of registering for the respective year, the candidate shall have to take readmission for the corresponding year again in which the failure has occurred, provided the course is not changed.

10. Improvement of performance

A candidate will be allowed to appear at the entire examination after the regular end-semester examination as per the respective rules to improve the performance. In such a case if the result of the examination repeated -

1. Is better than the previous one, the previous result shall be declared null and void; and
2. Is worse than the previous one, the result of the subsequent examination shall not be declared.
3. However, awarding of final grade will be made under the provision of sub clause 5.3 above.

11. Exit Rules for poorly performing students

A candidate shall be excluded from a course under the following conditions:

a. If he/she does not keep two consecutive terms without giving any reasonable justification (as prescribed by the institute) for doing so.

b. If he/ she fails to fulfill all the requirements of his/her respective degree within the prescribed period from the date of taking admission to the course.

12. Miscellaneous

c. Although CPI will be given in the Semester grade report, the final degree certificate will not mention any Class whatsoever.

d. Notwithstanding anything said above, if a course is revised /restructured then transient provisions applicable at the time of revision /restructuring shall be applicable.

3.6.3 Regulation R-13 (Amendment of Results)

In rare cases the result of a candidate might be wrongly represented due to errors inadvertently committed by the persons involved in the preparation of the results. Such a wrong representation is also possible due to intentional tampering with the results. The regulations below are meant for correcting the results under such conditions, when revealed.

(A) Amendment of result with errors

(1) In case where it is found that the result of an examination has been affected by errors, the Controller of Examination shall have the power to amend such result in such a manner as shall be in accordance with the true position and to make such declaration as is necessary, with the necessary approval of the Dean (Academic Programmes), Provided the errors are reported/detected within 6 months from the date of declaration of results. Errors detected thereafter shall be placed before the UGPC or PGPC, as the case may be.

(2) Error means-

i) Error in computer/date entry, printing or programming and the like

ii) Clerical error, manual or machine, in totaling or entering of marks on ledger/register

iii) Error due to negligence or oversight of examiner or any other person connected with evaluation, moderation and result preparation.

(B) Amendment of result affected by fraud, malpractices, etc.

In any case where the result of an examination has been ascertained and published and it is found that such result has been affected by any malpractices, fraud or any other improper conduct whereby an examinee has benefited and that such examinee, and in the opinion of the UGPC or PGPC, as the case may be, been party of privy to or connived at such malpractice, fraud or improper conduct, the UGPC or PGPC shall have the power at any time notwithstanding the issue of the Certificate or the award of a Prize or Scholarship, to amend the result of such examinee and to make such declaration as the UGPC or PGPC considers necessary.

3.6.4 Regulation R-14 (Repeat Semester Examination)

Repeat semester examination is a special feature of the examinations at the Institute. It provides an avenue for the students, who do not perform well in the main semester examination. A repeat examination therefore should be conducted immediately after the main examination.

(1) For each regular semester examination, one repeat semester examination shall be provided.

(2) A repeat semester examination shall be equivalent in all respect to the corresponding regular semester examination.

(3) A repeat semester examination should commence after 15 days from the date of declaration of the results of verification of marks; preferably within one month from the date of declaration of the semester examination results.

(4) The time tables for the repeat examinations shall be put up immediately after the declaration of the results of the regular semester examinations.

(5) The candidates who have failed, or have got ATKT, or have obtained less than 50% marks in one or more subject heads and desire to improve the performance may be permitted to appear at the repeat examination.

(6) The last date of submission of application forms for the repeat examination shall be minimum two days after the declaration of the results of the verification of marks.

(7) The rules for the conduct of the repeat examination shall be the same as the regular semester examination.

(8) The result of a repeat examination of a candidate shall override the respective result of the regular examination.

Repeat Practical Examination

Repeat examination in practical subject is permitted to the students in the following cases:

(1) Candidate has obtained 50 % marks in Continuous Assessment and appeared for regular End Semester practical examination and Failed. (Continuous Assessment here means attendance, submission and evaluation of journals, assignments).

(2) Candidate has obtained 50 % marks in Continuous Assessment and could not appear for regular End Semester practical examination due to valid Medical reason and/ or family bereavement. (Continuous Assessment here means attendance, submission and evaluation of journals, assignments).

(3) The candidates not fulfilling the above two criteria shall get a Year Drop.

3.6.5 Work Practice or In-Plant Training

The Regulations require that the B. Chem. Eng. and B.Tech. students work for at least six weeks, while the B. Pharm. Students work for at least four weeks, in approved industries at the end of the third year of the respective courses (i.e. at the end of the sixth semester) and to submit a satisfactory report to the Head of the department. The Heads of Department normally arrange for the placement of the students for the works practice.

3.6.6 Malpractice at the Examination (Regulation R-16)

Very strong action will be taken against students using, attempting to use, aiding, abetting, instigating or allowing using "unfair means" at the examination. This will be reported to the Unfair Means Inquiry Committee and the action taken by the Vice Chancellor shall be final.

3.7 ELIGIBILITY, ENROLMENT AND TRANSFER / LEAVING / MIGRATION CERTIFICATES

(Applicable only to the candidates who have been offered seats)

3.7.1 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.

3.7.2 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.

3.7.3 Enrolment Certificate

The students admitted after passing the XII standard (HSSC) Examination are required to submit to the ICT the duly filled in enrolment form, along with a copy of Statement of Marks and the prescribed fee at the time of admission. The enrolment form can be obtained from the office of the ICT.

3.8 ACADEMIC YEAR, CODE OF CONDUCT AND DISCIPLINE

3.8.1 Commencement of Academic Year

- The date of commencement of the first semester of the academic year 2017-18 shall be July 1st, 2017.
- All Bachelor's (2nd Year Onwards) and Master's courses shall start from 1st July 2017.
- The academic calendar for all the Bachelor's and Master's courses is divided into two semesters.

3.8.2 ACADEMIC CALENDER 2017-2018

The following shall be the Academic Calendar:

(A) DIVISION OF SEMESTER FOR ALL COURSES

ODD SEMESTER	: July 01, 2017 (Sat.) to December 15, 2017 (Fri.)
Diwali Vacation	: October 16, 2017 to October 27, 2017
EVEN SEMESTER	: December 16, 2017 to May 11, 2018
Summer Vacation	: May 14, 2018 to June 30, 2018

(B) EXAMINATION SCHEDULE FOR ALL COURSES

MID SEMESTER EXAMINATION

Odd Semester	: September 11, 2017 to September 16, 2017
EVEN SEMESTER	: February 19, 2018 to February 23, 2018

(C) SEMESTER EXAMINATIONS FOR UG COURSES

ODD SEMESTER

a)	Theory	: November 20, 2017 to November 27, 2017
b)	Practical	: November 28, 2017 to December 8, 2017
c)	Evaluation & Declaration of Results	: December 30, 2017 (Sat.)

EVEN SEMESTER

a)	Theory	: April 23, 2018 to April 30, 2018
b)	Practical	: May 2, 2018 to May 10, 2018
c)	Evaluation & Declaration of Results	: May 30, 2018

(D) SEMESTER EXAMINA FOR PG COURSES

ODD SEMESTER

a)	Theory	: November 28, 2017 to December 8, 2017
b)	Practical	: November 20, 2017 to November 27, 2017
c)	Evaluation & Declaration of Results	: December 31, 2017 (Sat.)

EVEN SEMESTER

a)	Theory	: May 2, 2018 to May 10, 2018
b)	Practical	: April 23, 2018 to April 30, 2018
c)	Evaluation & Declaration of Results	: May 30, 2018

Notes :

- First Year B. Chem. Engg./B.Tech./B.Pharm.Semester-I Time Table will be declared only after start of these courses. End Semester examinations will be as per the schedule of UG course.
- All Undergraduate courses will observe same Calendar for Semester-II.
- The Master's courses [(M.Tech./M.Chem.Engg./M.Pharm./M.E.(Plastic Engg.)] student will not have any vacation and they will submit thesis by June 30, 2017. They are entitled to get 30 days yearly leave by approval
- For M.Sc (Mathematics /Textile Chemistry) time table will be as per UG course.

3.8.3 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.

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 suppose 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.

3.8.4 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.

3.8.5 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. lCash 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.

3.8.6 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.

3.8.7 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.

3.9 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 studentsshould be below Rs.1,00,000/- p.a. and for SC students below Rs. 2,00,000/- 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/ SBCstudents 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 On Line by the 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 (Mrs. Asha Bhangre). Students from other than HSSC Board should fill up paper version of the application form.

1. Income Certificate of the parents for year 2015-16.

   For Freeship - Income Certificate of the parents for year 2015-16 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 31st March 2017.

   For Scholarship - Income Certificate of the parents for year 2015-16 from Tehasildar.

2. For Fresh ST students other than Mumbai Board - Change of District Certificate (Zilla Badal Dakhala)
3. Caste Certificate - signed by Special Executive Magistrate.
4. Caste Validity Certificate
5. Ration Card
6. Mark sheet of the last annual examination passed.
7. Admission Fee receipt of 2017-18.
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 2017-18.

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.

<u>After admission to hostel, students should contact Academic Office.</u>

The attested copies of the following documents should be attached with the Application Form.

1. Income Certificate of the parents for year 2015-16 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 2017-18.
6. Hostel Certificate and Hostel fee receipt for the academic year 2017-18.

C. Govt. of Maharashtra Freeship to Sons & 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 2017-18.

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 2015-16 from Tehasildar.
2. Ration Card.
3. Mark sheet of the last annual examination passed.
4. Admission Fee receipt for the academic year 2017-18.

E. Freeship to Sons & 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 2017-18.

F. Merit cum Means Based Scholarship of Government of India (Muslim, Sikh, Buddhist, Christian, Zoroastrians (Parsi)

For application form, eligibility criteria and documents to be submitted please see www.dte.org.in. After completing the form along with required documents, it should be submitted to the ICT Academic office (Mrs. Asha Bhangre).

G. Government of Maharashtra Scholarship for the Minority Communities Students Pursuing Technical and Professional Education

(Muslim, Sikh, Buddhist, Christian, Zoroastrians (Parsi) and Jain minority communities)

For application form, eligibility criteria and documents to be submitted, please see www.dte.org.in. After completing the form along with required documents, it should be submitted to the ICT Academic office (Mrs. Asha Bhangre).

4. CAMPUS AND INFRASTRUCTURE

4.1 PROFESSOR M. M. SHARMA LIBRARY

Established in the year 1934, it functions as the central library of the institute and is 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-storeyed building and follows a completely open-access concept. It has a specialized collection in Chemical Engineering, Chemical Sciences, Chemical Technology and Pharmacy and their allied fields.

Speciality areas: Chemistry, Applied Chemistry, Chemical Technology, Chemical Engineering, Pharmacy, Energy & Environmental Engineering, Biotechnology, Food Technology & Fermentation, Polymer Science & Technology, Textile Science & Technology, Oils & Surfactants, Dyestuff Technology.

Library Collection: Number of volumes: 76563; Number of scientific and technical journals subscribed: 125 ; Theses & Dissertations: 4360; CD-ROMs: 1303; Online Journals (via IP) from Elsevier (Sciencedirect), Springer, Wiley, Royal Society of Chemistry and Taylor and Francis. Databases such as SciFinder, Scopus, Reaxys.

Facilities offered: The bona fide students and faculty of the institute have book-lending facility. Photocopying facility is available for all, on payment. Internet and online journals access facility is available for the bona fide research students and faculty. Reference and Referral service is also provided. Book Bank facility is also provided.

Book Bank: Under this scheme, students belonging to the backward classes receive the benefits of Book bank scheme. Two books shall be issued per student under the scheme, in addition to the two normal books issued from the library. The due date shall be stamped on the book(s) issued. In case of damage or loss of book(s), all the rules applicable to the loss of library book will apply to these books also.

Library Timings : The library is open from 8.30 A.M. to 8.30 P.M. on all working days and from 11.00 A.M. to 6.00 P.M. on Sundays, Holidays and the 2nd and the 4th Saturdays of every month.

The library remains closed on the Independence Day, the Republic Day, Ganesh Chaturthi and Dasara.

4.2 HOSTELS AND COUNSELLING SERVICES

4.2.1 Preamble

ICT has five hostel blocks on the campus including 3 boys' and 2 girls' hostels. The total number of hostel accommodation seats available for the students at the ICT is nearly 855 (for all courses and years) including 210 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 in 1990 to accommodate the students of ICT (then UDCT). In 1993, a 66-seater hostel 4 girl's hostel was built presently used for boys. 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.

4.2.2 Process of Allocation of Hostels

1. Hostel No. 1, 4, 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 and no senior undergraduate will be allotted to the hostel. Hostel No. 3 has 1st year undergraduate, Master's and Doctoral girls students.

2. Total number of seats available for fresh admissions is about 200 per year, which includes all Undergraduates, Master's and Doctoral students out of which seats available for the first year UG admissions (B.Chem.Engg., B.Pharm. and B.Tech.) are limited to only 30 girls and 90 boys maximum. Those for first year Master's degree (M.Chem.Engg., M.E., M.Tech., M.Sc., M.Pharm.) are limited to 25 girls and 75 boys depending on availability. Hostel admission to new doctoral students are subject to availability created due to vacating the hostel by earlier Ph.D. students with respect to the departmental allocation.

3. Accommodation in hostels cannot be guaranteed to all the students taken admission to ICT for various courses. Preference will be given to under graduates.

4. Only bonafide students of ICT are entitled for hostel admission.

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 and Panvel). 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.

6. Student who have taken admission to ICT can register on-line through ICT log in portal (www.ictmumbai.co.in). Students need to upload a residence proof, a medical certificate from your family doctor (with clearly mention about cronic health problem or allergy if any). Hostel authority will approve the form and will give call for admission depending upon the availability of seats.

7. Students must confirm the hostel admission by paying the required fee on-line. The hostel fee will be paid by on-line mode only.

8. 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.

9. The admission to the hostel will be done by the Head Warden and Hostel Office in concern with respective hostel wardens. All the rights for hostel admissions are reserved with Head Warden, ICT.

10. 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.

11. 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.

4.2.3 Hostel Fees

4.2.3.1 Accommodation Fees:

Hostel	Category	Type of Accommodation	Hostel Capacity	Fees,** Rs.
Hostel No. 1	Boys	Double Seated & More	263	23,500/-
Hostel No. 2	Girls	Double Seated & More	146	23,500/-
Hostel No. 3	Girls	Double Seated & More	107	27,500/-
Hostel No. 4	Boys	Double Seated & More	66	23,500/-
Hostel No. 5	Boys	Double Seated & More	362	30,000/-

* Single seated room for Ph.D. students will be provided (in hostel no. 5 for boys and hostel no. 3 for girls) subject to availability and the fees will be based on UGC HRA norms.

** Hostel fee includes the students sports activity and Mess Depreciation.

4.2.4 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 charges including breakfast and two meals a day are in the tune of Rs. 2,200/-per month.

Mess Deposit Advances / Monthly Expenses will be extra as per the norms of the respective messes. Mess deposit of Rs. 5,000/- is required to be paid at the time of joining of Mess, which will refunded at the end of the stay. All the mess members are required to pay Rs. 20,000/- towards advance mess charges from which the monthly mess bill will be deducted every month.

4.2.5 Hostel Management

Wardens at ICT Hostels

Hostel No.	Warden		Telephone
	HEAD WARDEN - Prof. V. K. Rathod		3361 2020
1	**Dr. P. D. Vaidya** (Department of Chemical Engineering) Email: pd.vaidya@ictmumbai.edu.in		3361 2014
2	**Mrs. Madhavi Wadkar** (Department of Librarian) Email: mm.wadkar@ictmumbai.edu.in		3361 1126
3	**Dr. Jyoti Sontakke-Gokhale** (Department of Food Engineering & Technology) Email: jyotisontakke@gmail.com		3361 2510
4	**Dr. S.T. Mhaske** (Department of Polymer and Surface Engineering) Email: st.mhaske@ictmumbai.edu.in		3361 2412
5	**Prof. V. K. Rathod** (Department of Chemical Engineering) Email: vk.rathod@ictmumbai.edu.in		3361 2020
Hostel Office	**For details please contact** **Mr. V. N. Patil – Hostel Supervisor** **Mrs. Surekha Kamble – Clerk** **Mr. Sanjay Bansode – Accountant**		3361 1452 3361 1453

4.2.6 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.
2. Hostels are equipped with Mess, T.V. Room, Reading Room, Playground, Health Centre, Gymkhana, Library and Study Room Facilities.

3. Senior MBBS doctors are available in the health centre of the hostel on all working days at designated times at free of cost for all the students residing in ICT hostels.
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.

4.2.7 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 girl students have to be in their respective hostels by 10.00 pm and boys by 11.00 pm. An affidavit to this effect has to be given by students and their parents at the time of admission.
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. Three Directors of the ICT- Former Directors, Professor M.M. Sharma and Prof J.B. Joshi, the Present Vice Chancellor Professor G.D. Yadav have been hostel residents on this campus. Prof Yadav has also served as the Warden, and Head Warden, earlier. Dr. V. K. Rathod, Dr. Shashank Mhaske, Dr. P. D. Vaidya, Dr. Jyoti Gokhale 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: Head Warden, Professor V. K. Rathod (vk.rathod@ictmumbai.edu.in), Dean- Student Affairs and Human Resource Development, Professor A. B. Pandit (ab.pandit@ictmumbai.edu.in), and Registrar, Professor S. S. Lele (registrar@ictmumbai.edu.in).
6. Detailed rules and regulations will be provided during admission.

4.2.8 Counselling Services

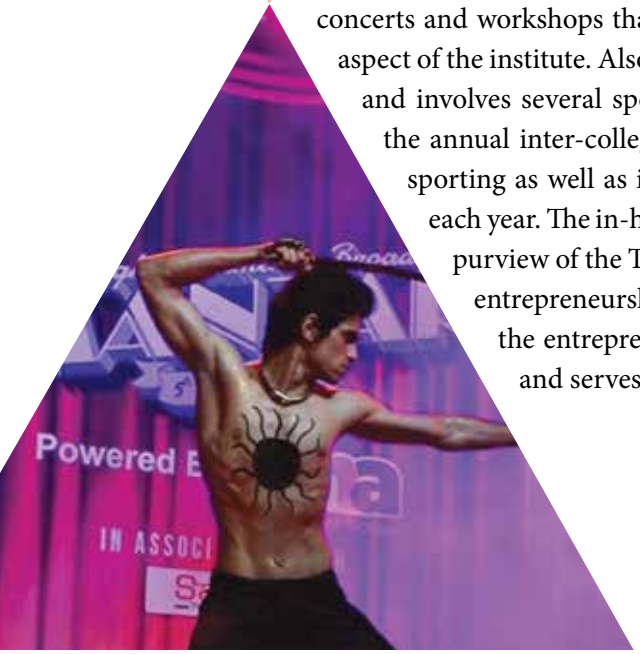
Counseling services are available for the benefit of all the students of the Institute - right from First year to those doing their Doctorate. The Counselor - **Ms. Malini Shah,** with her in-depth knowledge of Philosophy and Psychology, has been actively participating in this important activity. The 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 1st 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.

5. ASSOCIATIONS, ENDOWMENTS AND PLACEMENT

5.1 TECHNOLOGICAL ASSOCIATION

The Technological Association (TA) is the student body of ICT that conducts co-curricular and extra-curricular activities throughout the academic year. This 23-member strong team is presided by the Vice-Chancellor, Prof. G. D. Yadav, while Prof. S. S. Bhagwat is the Vice President. Cultural activities, including those related to music, dance, art, English and non-English literature are organized by the clubs. 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. Also, the intra-college festival, FunTech, is 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. 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. An 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.



5.2 UDCT ALUMNI ASSOCIATION

UDCT Alumni Association

UDCT Alumni Association (UAA) (http://www.udctalumni.org.in/) was formed in 1989 to foster fellowship and provide a forum to bring together the alumni of UICT, its past and present faculty members on a common platform and to promote the activities of the ICT in India and abroad and to institute awards, fellowships and grants. Several well wishers are members of UAA. All current students are invited to join UAA as well wiser members and participate in all activities. For the last 20 years, UAA has striven hard to achieve its objectives with valuable and timely support of the members, well wishers and through donations or membership fees. UAA currently has more than 3500 life members and14 Patron members. The main objectives of UAA are:

1. **Providing direct financial assistance to ICT :**

   To support infrastructure development of the institute

   To support student activities along with Technological Association To support needy students

   Toprovide books in special areas such as management

2. **Enhancing studentship at ICT : Sponsoring factory visits**

   Arranging lectures, seminars, symposia, workshops Awarding best students of ICT for their meritorious performance

   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.

   The Post Graduate Diploma Course in Chemical Technology Management (CTM) for the Ph.D. students in ICT is fully supported by UAA

3. **Organizing Institution level events :**

   Instituting the UAA Dhirubhai Ambani Lifetime Achievement Award every year to the person who excels in the chemical field internationally.

   Organizing ICT Foundation Day celebrations

   Awarding UAA Distinguished Alumnus awards every year to three or four distinguished persons for their contributions to teaching, research, industry, defence public/government

   UAA Annual Day celebrations

   Training and Placement Service to current students and alumni.

4. **Managing the Alumni Network : Managing the database of all alumni**

   Increasing UAA Membership - Any present or past student faculty member or a well-wisher can become a life member of the UAA. It has a membership of about 3500

   Maintaining UAA Website lIssuing UAA bulletins

   Promoting ICT at national and international level

5. **UAA Chapters**

   UAA has local chapters in different cities in the country and also abroad in UK, USA, Singapore, Australia and Thailand.

5.3 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 (upto 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.

5.3.1 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 & Sustainablity Engineering (2015)

5.3.2 Visiting Professors/Fellows/Lecturers/Orations Endowments

There are 46 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 will form part of audit courses for research students. Besides, 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. Dr. Balwant S. Joshi Distinguished Visiting Professorship in Chemical Engineering Chemical Technology / Applied Chemistry "
5. Shri. B. S. Rajpurohit Visiting Faculty and Oration Endowment
6. Shri D. M. Trivedi Lecture in Green Chemistry and Technology Endowment
7. Annual Oration in the name of the Late Professor W. B. Achwal Endowment

2. Department of Chemical Engineering

8. Dr. G.P. Kane Visiting Professorship in Chemical Engineering.
9. The Dow Professor M.M. Sharma Distinguished Visiting Professorship in Chemical Engineering.
10. Shri V.V. Mariwala Visiting Professorship in Chemical Engineering
11. Shri G.M. (alias Dada) Abhyankar Memorial Distinguished Fellowship in Chemical Engineering
12. Professor R.A. Rajadhyaksha Memorial Lecture series.
13. Shrimati Kusumben and Shri Mathradas Kothari Visiting Professorship in Chemical Engineering
14. K. J. Somaiya Visiting Professor of Chemical Engineering Endowment
15. Professor Arun S. Mujumdar Visiting Fellowship

3. Department of Dyestuff Technology

16. K.H. Kabbur Memorial Silver Jubilee Lectureship.
17. Professor K. Venkatraman Lectureship.
18. Pidilite Industries Ltd. Visiting fellow in Dyestuff Science & Technology.
19. Dr. KKG Menon Memorial Lecture Endowment

4. Department of Fibres and Textile Processing Technology

20. Professor G.M. Nabar Endowment Lectureship.
21. L.N. Chemicals ICT Diamond Jubilee Visiting Fellow

22. Class of 1966 Visiting Fellowship.

5. Department of Food Engineering and Technology

23. Professor A. Sreenivasan Felicitation Lectureship.
24. Marico Industries Visiting Fellowship
25. ICT - Lupin Visiting Fellowship for Bioprocess Technology

6. Department of Oils, Oleochemicals and Surfactants Technology.

26. Professor J.G. Kane Visiting Professorship in Chemical Technology
27. Professor J.G. Kane Memorial Lectureship

7. Department of Pharmaceutical Sciences and Technology

28. CIPLA Distinguished Visiting Fellowship in Pharmaceutical Sciences
29. Themis Medicare - ICT Diamond Jubilee Distinguished Fellowship in Pharmaceutical Sciences
30. Professor (Mrs.) Malati R. Baichwal Visiting Fellowship in Pharmaceutical Science and Technology
31. AAIPS- Dr. R. S. Baichwal Pharmaceutical Seminar
32. Dr. S.K. Pradhan Endowment
33. Professor V.M. Kulkarni Endowment Fund in Pharmaceutical Science and Technology

8. Department of Polymer Engineering and Technology and Department of Surface Coating Technology

34. Shri K. S. S. Raghavan - Chemical Weekly Visiting Professorship in Polymer Science and Technology
35. Indian Plastics Institute (IPI)-ICT Diamond Jubilee Visiting Fellowship in Polymer Processing
36. Chemimpex Rastogi-ICT Diamond Jubilee Visiting Fellowship in Surface Coatings.
37. Synpol-ICT Diamond Jubilee Distinguished Visiting Fellow in Science & Technology of Pigment
38. Tipco-ICT Diamond Jubilee Distinguished Visiting Fellow in Thermosets
39. Jayvee Organics & Polymers(P)Ltd. Visiting Fellowship in Polymer Additives and Compounding
40. Parmanand F. Parikh Endowment
41. Shri B.S. Rajpurohit Visiting Professorship in Polymer Science and Technology Endowment
42. Sauradip Chemical Industries Pvt. Ltd. Visiting Fellowship

9. Department of Chemistry

43. Dai-Ichi Karkaria Ltd. Visiting Fellowship
44. The Dharamsi Morarji Chemical Co. Visiting Fellowship in Chemistry
45. The (Late) Shri. G.D.Gokhale Endowment Lectureship
46. Spinco-Biotech - Ramanathan Lectureship

10. Department of Physics

47. Dr. Mooljibhai Shivabhai Patel Trust Visiting Fellowship in Polymer Physics

5.3.3 Scholarships for UG Students

The ICT supports 251 students under merit-cum-means scholarships. The range is Rs. 3000/- to Rs. 75,000/ 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 Scholarships is given below. For details such as number of scholarships, amounts, eligibility and selection criteria interested candidates may contact VC Office of the ICT.

I. GENERAL SCHOLARSHIPS

1. M. S. Patel Trust Merit-cum-Means Scholarship (Min six) (Value of Rs. 5,000/- each.)
2. Rushmi-Druman Merit-cum-Means Scholarship (One) (Value of Rs. 3,600/-)
3. Distinguished Alumini Merit-cum-Means Scholarship (One) (Value of Rs. 1,800/-)
4. Smt. Badamidevi Chiranjilal Murarka Charity Trust Merit-cum-Means Scholarship (One) (Value of Rs. 3,600/-)
5. Sohrab Mistry Merit-cum-Means Scholarship (Two)(Value of Rs. 5,000/- each.)
6. Perin & Jal Khan Merit-cum-Means Scholarship (Three)(Value of Rs. 3,600/- each)
7. Smt. Parvathy Sitaram Merit-cum-Means Scholarship (Two) (Rs. 4,500/- each).
8. Druman M. Trivedi Merit-cum-Means Scholarship (Two)(Value of Rs. 3,600/- each).
9. S.L. Venkiteswaran Merit-cum-Means Scholarship (One) (Value of Rs. 4,500/-)
10. M.C. Chhatrapati Charitable Trust Merit-cum-Means Scholarship (Two) (Value of Rs. 3,600/- each).
11. Late Dr. (Mrs.) Mahalaxmi Bhagwat Merit-cum-Means Scholarship (One) (Value of Rs. 3,600/-)
12. Prof. A.N. Kothare Scholarship (Three) (only for first year, HSC Mumbai Board preferred) (Value of Rs. 7,500/- each).
13. Rukmani and Nagraj Rao Memorial Merit-Cum-Means Scholarship (One) (Value of Rs. 7,000/-)
14. Dr. D.D. Haldavnekar Merit-Cum-Means Scholarship (Three) (Value of Rs.1800/- each.)

II. MIXED – DEPARTMENT OF OILS, FOOD, AND POLYMER

1. Fine Organic Industries Merit-cum-Means Scholarship (Three) (Rs.7500/-each) amount to be decided each year. For the dept. of oils, foods and polymers.
2. Kamani Oils Merit-Cum Means Scholarship (two) (Value of Rs. 25,000/-each). (for students from Final Year B.Tech. (Oils) and Final Year B.Tech.(Foods)

III. DEPARTMENT OF CHEMICAL ENGINEERING

1. An Anonymous Alumnus Merit-cum-Means Scholarship (One) (Value of Rs. 3,500/-)
2. Gogri Brothers Scholarship (Four) (value of Rs. 4,000/- each).
3. Hemraj Lalji Meishry Scholarship (Two) (Value of Rs. 3,500/- each).
4. 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.)

5. Purbhudas Jeevandas Mint Road Wadi Trust Scholarship (Four) (Rs. 3,500/- each).
6. Y. T. Shah Merit-cum-Means Scholarship (One) (Value of Rs. 2,000/-)
7. Vaishnomal Malhotra - K.K. Malhotra Merit-cum-Means Scholarships (Two) (Value of Rs. 10,000/- each).
8. Head Master Muthuswami Merit-cum-Means Scholarship (One) (Value of Rs. 1850/-)
9. Rajendra G. Sardesai Scholarship (Four) (Value of Rs. 10,000/- each)
10. B. Chem. Engg Class of 1962 (Two) (Rs. 5,000/- each).
11. Andanallur Srinivasa Venkatesan & Ranganayaki Scholarship (One) (Rs.3,000/-)
12. Daisy Navaroze Baria Scholarship (One) (Rs. 2,500/-)
13. Dr. Surendra R. Gupta Scholar (Mukut Sah) (one - to be continued for the entire four years course only if he/she secures First Class throughout each of the four years) (Rs. 40,000 Tution fees + Rs. 20,000/- Hostel fees=Rs. 60,000/-) (preferably for a girl student) (Rs. 60,000/- each)
14. Jitendra Mehta Scholarship (Two) of (Rs. 20,000) (Rs. 10,000/- each) year to year
15. Sarojben and Pratapray Shah Memorial Scholarship (Six) (Value of Rs.75,000/- p.a. each)
16. Shri Ashvin J. Desai Merit cum Means Scholarship (1974 Batch) (two) (Value of Rs. 4,000/- each p.m.) (Only for UG students of Chem. Engg.)
17. Shri Kantilal Ajmera Merit cum Means Scholarship (one) (Value of Rs. 5,000/- p.m.) (Only for one UG student of Chem. Engg.)

IV. LOAN SCHOLARSHIPS

1. Kusumben and Baba Sheth Kothari Charitable Trust Merit cum Means Scholarship (only for one Chem. Engg. Student) (as per our discretion to help, reimburse fees, mess bills etc. for deserving students on a returnable basis when they graduate and start earning) (Total Bal. Rs.4, 50, 000/-) (No. of Student one) (Value of Rs. 4500/- p.m.)
2. Shri Sharad C. Patel Merit cum Means Scholarship (one) (Value of Rs. 50,000/-) (only for UG student in Dept. of Chem. Engg.)
3. B. Chem. Engg. Class of 1982 (Two) (Value of Rs. 50,000/- each)
4. UAA South East (SE) Asia Chapter Loan Scholarship (Two) (Value of Rs. 1,00,000/- per student) (Only for one from B. Tech. (any branch) and one from B. Chem. Engg.)

   Not awarded for this year
5. Dr. Balwant Joshi Endowment Scholarship (One) (Value of Rs. 25,000/- interest free loan scholarship) (Only for Chem. Engg. Student)

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 (One) (Rs.4,000/-)

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. 4,000/-)

VII. DEPARTMENT OF FOOD ENGINEERING AND TECHNOLOGY

1. "Professor P.J. Dubash Memorial – AFST (I), Mumbai Chapter Endowment Scholarships" (One) (Value of Rs. 25,000/-) for UG B.Tech. student in FET (Food Engineering and Technology) Department.

VIII. DEPARTMENT OF POLYMER AND SURFACE ENGINEERING

1. Jitendra & Hemant Vakil Merit-cum-Means Scholarship (Two)(Rs. 2,800/- each)
2. Kumar R. Basu Memorial Merit-cum-Means Scholarship (Two) (Rs. 3,500/- each) (only PPV)
3. Synpol Memorial Scholarship (One) (Rs. 3,500/-)
4. "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. 4200/-)

   Not awarded for this year

IX. DEPARTMENT OF DYESTUFF TECHNOLOGY

1. Colour Chem.Ltd. Merit-cum-Means Scholarship (One) (Value of Rs. 3,600/-)
2. Alumni Association – UDCT Dyestuff Division Golden Jubilee Fund Merit –cum –Means Scholarship (One) (Value of Rs.3,600/-)
3. Dr. Kishore Manilal Shah Endowment Merit cum Means Scholarship in Dyestuff Technology (for one UG student from First to Final Year) (Value of Rs. 4500/-)

X. DEPARTMENT OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

1. Dr. Krishna S. Manudhane Merit-Cum-Means Scholarship (Two) (Rs.1,800/- each).
2. Dr. R.K. Dhote Charitable Trust Merit-Cum-Means Scholarship (One) (Rs. 3,600/-)
3. Dr. Dhiren and Kailas Thakker Endowment Scholarship (Three) (Rs.7500/-) (only for student each from First to Final year B. Pharm. and B.Tech. (Pharma)

XI. GENERAL SCHOLARSHIPS ON YEAR TO YEAR BASIS

1. Gunvati Jagannath Kapoor Scholarship (40) (out of forty 20 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.
2. Mr. Rajen Mariwala Merit-Cum-Means Scholarship (One) (Value of Rs. 10,000/-)

3. Ambuja Cement Merit-Cum-Means scholarship (Fifteen) (Rs. 10,000/- each).

4. Sandra Shroff Merit-Cum-Means Scholarship (Ten) (Value of Rs.10,000/- each).

5. "Dr. Purushottam Janardan Kangle Merit-cum-means Scholarship"for TWO students from B.Tech. (Textile) and B.Tech. (Dyesstuff) (Rs. 3000/- each)

XII. SCHOLARSHIPS AWARDED DIRECTLY BY THE OUTSIDE TRUST

1. Certificate of Merit under the Narotam Sekhsaria Foundation (NSF) Scholarship Programme for Undergraduate studies in Engineering Rs.50,000/-

2. Tata Trusts Scholarships

3. Vishwanath Dore Scholarship (C/o Asara Scholarship) (One) (Value decided by trust)

4. 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)

5. 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 coating – 1st, 2nd, 3rd and 4th year – One student each, from 1st, 2nd, 3rd and 4th year total – 4 students (Rs. 5,000/- cash + certificate)

6. The Bayer Scholarships

7. Indian Oil Educational Scholarship Scheme- Award of Scholarhip (Two) Rs. 18,000/- each.

5.4 TRAINING AND PLACEMENT CELL

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 now 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 afterby the Indian and global chemical industry and their salaries rank among 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,TwenteUniversity, 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 whichwas started by Vice Chancellor, Prof. G. D. Yadav in 2010 to organize all the placement and training activities at a central place. It is supported by UAA (UDCT Alumni Association). Dr V. K. Rathod (Department of Chemical Engineering) is Overall faculty coordinator who is assisted by faculty coordinators and student coordinators from each Department. Placement at ICT is a year-long activity. Companies are typically organized on Saturdays and Sundays in order to minimize impact on regular academic activities. 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.

Central Faculty Coordinator

Dr. Virendra K. Rathod

Professor of Chemical Engineering,

Email: vk.rathod@ictmumbai.edu.in

Phone: +9133612020

5.4.1. Industrial Placements:

Most of the students who are eligible for jobs have been placed in various companies as follow

Agilent Technologies

BASF
We create chemistry

Dr.Reddy's

WOCKHARDT

Petrofac

GE Healthcare

ALFA LAVAL

DOW

GARWARE

L'ORÉAL
PARIS

Tecnimont

DyStar

marico

Cipla
Caring for life

Kellogg's

MIRAMAX

Hindustan Unilever Limited

Hospira

RUBAMIN

ThyssenKrupp

INTAS

Cadbury

ECOLAB

Galaxy

Godrej

Coca-Cola

ITC Limited

Coke

ABHAY COTEX PRIVATE LIMITED

Pidilite

pepsi

SI Group

NEROLAC

AkzoNobel

EVALUESERVE
POWERED BY MIND + MACHINE

5.4.2. 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 are placed are as follows

TEXAS
The University of Texas at Austin

WASHINGTON STATE UNIVERSITY

UNIVERSITY OF CALIFORNIA SANTA BARBARA

CUNY The City University of New York

Curtin University of Technology

PURDUE UNIVERSITY

CORNELL UNIVERSITY FOUNDED A.D. 1865

UNIVERSITY OF MINNESOTA

University of Pittsburgh

TEXAS A&M UNIVERSITY

THE OHIO STATE UNIVERSITY

Georgia Tech

Penn
UNIVERSITY of PENNSYLVANIA

Northwestern University

THE UNIVERSITY OF CALIFORNIA BERKELEY

UNIVERSITY OF MICHIGAN

UC RIVERSIDE

UMASS AMHERST

RENSSELAER POLYTECHNIC INSTITUTE

MICHIGAN STATE UNIVERSITY

6. 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-

1. Title, commencement and applicability:-

1.1. These regulations shall be called the "UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009".

1.2. They shall come into force with immediate effect.

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.

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.

3. Definitions: - For the purposes of these Regulations:-

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.

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.

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.

3.4 "Ragging" means the following:

Any conduct whether by words spoken or written or by an act which lias 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.

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.

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.

4. Punishable ingredients of Ragging:-

Abetment to ragging;

Criminal conspiracy to rag;

Unlawful assembly and rioting while ragging; lPublic nuisance created during ragging; lViolation of decency and morals through ragging; lInjury to body, causing hurt or grievous hurt; lWrongful restraint;

Wrongful confinement; Use of criminal force;

Assault as well as sexual offences or unnatural offences; Extortion;

Criminal trespass; lOffences against property; lCriminal 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".

5. Measures for prohibition of ragging at the institution level:-

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.

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.

5.3 The institution shall take strict action against those found guilty of ragging and/or of abetting ragging.

6 Measures for prevention of ragging at the institution level: -

6.1 Before admissions:-

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).

6.1.2 The brochure of admission/instruction booklet for candidates shall print in block letters these Regulations in full (including Annexures).

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'.

6.1.4 The application form for admission/ enrolment 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.

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.

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.

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

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.

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.

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.

6.1.11 The institution shall identify, properly illuminate and man all vulnerable locations.

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.

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.

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.

6.2 On admission:-

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.

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.

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.

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.

6.2.5 The institution shall also organize joint sensitization programmes of 'freshers' and seniors.

6.2.6 Freshers shall be encouraged to report incidents of ragging, either as victims, or even as witnesses.

6.3 At the end of the academic year:-

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.

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.

6.4 Setting up of Committees and their functions:-

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.

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.

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 has been constituted by the institute.

Anti-Ragging Committee

Dean (HRD)	Professor A. B. Pandit
Dean (ICD)	Professor B. M. Bhanage
Three Professors/Associate Professors	Professor (Smt.) P. V. Devarajan
	Professor Radha Jayaram
	Dr. G. S. Shankarling
Support Staff	Dr. Satish Mane
Counsellor	Ms. Malini Shah
A. R. (Admin)	Shri. R. B. Sawant
VP, Technological Association (Ex-officio)	Professor S. S. Bhagwat
GS, Technological Association (Ex-officio)	Shri. Govind Sood
Concerned HOD (Invitee)	
Registrar	Professor (Smt.) S. S. Lele

6.5 Other measures:-

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.

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/ course levels. Parents and teachers shall also be involved in such sessions.

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.

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.

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.

6.5.6 The security personnel posted in hostels shall be under the direct control of the Wardens and assessed by them.

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.

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 suomoto if the circumstances so warrant.

6.5.9 Freshers who do not report the incidents of ragging either as victims or as witnesses shall also be punished suitably.

6.5.10 Anonymous random surveys shall be conducted across the 1st 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.

6.5.11 The burden of proof shall lie on the perpetrator of ragging and not on the victim.

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.

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.

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.

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.

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.

6.6 Measures for encouraging healthy interaction between freshers and seniors:-

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.

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.

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. Measures at the UGC/ Statutory/ Regulatory body level:-

7.1 Regulatory measures:-

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.

7.1.2 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.

7.1.3 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.

7.1.4 The NAAC and other accrediting bodies shall factor in any incident of ragging in the institution while assessing the institution in different grades.

7.2 Incentives for curbing ragging:-

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.

7.2.2 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.

7.2.3 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.

7.3 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:

7.3.1 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.

7.3.2 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.

8 Punishments:-

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:

8.1.1 Suspension from attending classes and academic privileges

8.1.2 Withholding/ withdrawing scholarship/ fellowship and other benefits.

8.1.3 Debarring from appearing in any test/ examination or other evaluation process.

8.1.4 Withholding results

8.1.5 Debarring from representing the institution in any regional, national or international meet, tournament, youth festival, etc. .

8.1.6 Suspension/ expulsion from the hostel.

8.1.7 Cancellation of admission

8.1.8 Rustication from the institution for period ranging from 1 to 4 semesters

8.1.9 Expulsion from the institution and consequent debarring from admission to any other institution for a specified period ,

8.1.10 Fine ranging between Rupees 25,000/- and Rupees 1 lakh .

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.

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:

8.2.1 Withdrawal of affiliation/ recognition or other privileges conferred on it

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

8.2.3 Withholding grants allocated to it by the university, if any

8.2.4 Withholding any grants chanellised through the university to the institution

8.2.5 Any other appropriate penalty within the powers of the university.

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.

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:

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

8.4.2 Withholding any grants allocated to it

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

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.

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.

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

7. 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 & 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 POSTGRADUATE STUDENTS (MASTER'S AND DOCTORAL)

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 he 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. and M.Tech. Courses, the last date for applying for Eligibility is 31st 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 & Branch: _____

Mobile No.: _____

Email: _____

Date: **Name & Signature of the Student**

PROFORMA - B

(For P1/ P2/ P3 Candidates)

(For Physically Handicapped Candidates)

CERTIFICATE

Photograph of the candidate 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 & Hearing impaired (P2)/ Orthopaedicdisorder(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 2016-2017.

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 & 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 2016-2017.

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,

Full name of candidate : _____

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 return my original documents and refund the fees paid as per the rules.

_____

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. & date	
Bank particulars	

Signature of Accounts Officer

Received the following original documents from the Admission Authority, along with the cheque towards refund of fees after deductions.

1

2

3

Signature of the candidate

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 त्रुटीही
अखंड ऊर्जा निर्मळ पाणी
अक्षर हरिते जगन्माते
रसायन देविके श्री रसायन देविके ।। ३ ।।
मूर्तिमंत तू कीर्तिरक्षिके
जगन्मान्य तू महन्मंगले
अभियंती अन् रत्नपारिखे
शतप्रणाम हो तुज नायिके
नवक्षितिजे 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
दिनांक २७ फेब्रुवारी २०१२
कुलगुरू, रसायन तंत्रज्ञान संस्था
(प्रथम दीक्षांत समारंभ दिनी प्रकाशित दिनांक ६ मार्च, २०१२)


INSTITUTE OF G..E....CAL TECHNOLOG

INSTITUTE OF CHEMICAL TECHNOLOGY
(University under section 3 of the UGC Act 1956)
Elite Status & Centre of Excellence - Government of Maharashtra

Nathalal Parekh Marg, Matunga, Mumbai - 400 019, India
Tel: +91-22-33611111/2222, Fax: +91-22-33611020
Website: www.ictmumbai.edu.in

Created by: Media R&D - 9819907982