INSTITUTE OF CHEMICAL TECHNOLOGY

(Deemed University under section 3 of UGC Act 1956 (Sept 12, 2008) and
Elite Status and Centre of Excellence - Govt of Maharashtra,
Assembly Resolution April 20, 2012)

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

NAAC
SELF STUDY REPORT
(REVISED 2016-17)

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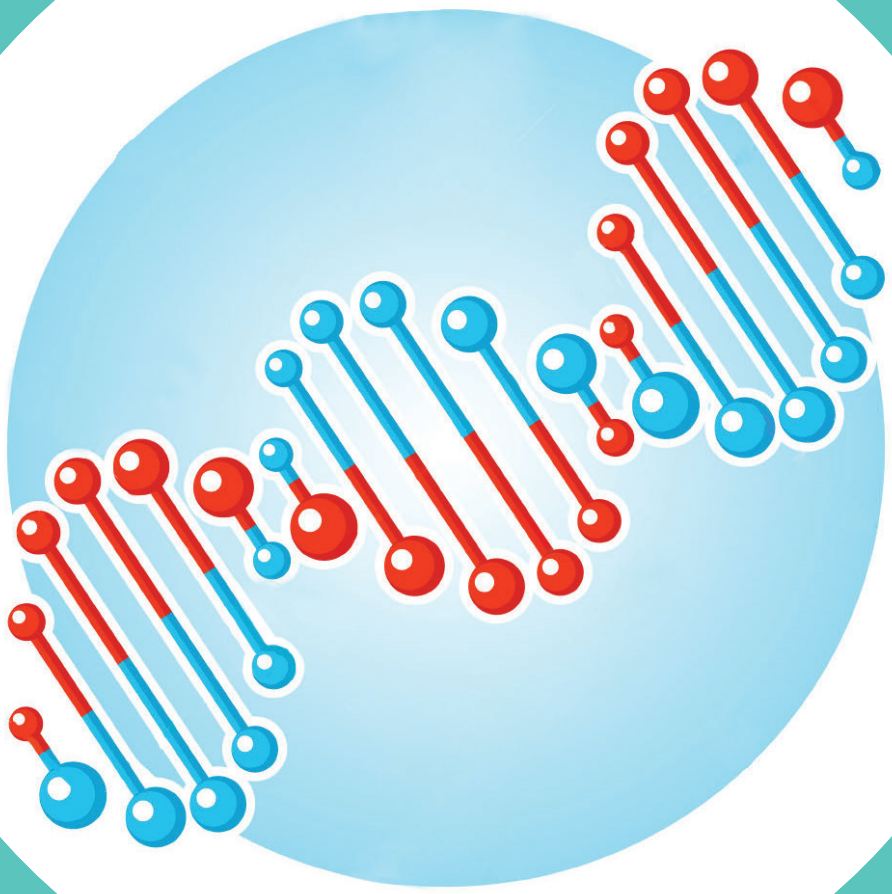
CHEMICAL ENGINEERING DEPARTMENT



Chemical Engineering Department

The Department of Chemical Engineering of ICT is one of the leading Chemical Engineering Departments in the Country maintaining high standardsin teaching, research and industrial liaisoning, rated by the international surveys conducted by Professor Jude Sommefield of Georgia Tech, USA since 1964 for every five year period as well as every year which included all IITs and IISc. Besides, it is among the top 12 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 Confederation of Indian Industries (CII) and AICTE survey has ranked Chemical Engineering Department as No. 1 in the country for best Industry linked Institute, consecutively for 3 years in a row 2014 to 2016.

The number of papers published in peer reviewed journals per faculty is also the highest in India. The FIST program of DST has also 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 faculty has been acting as consultants to industry and the earnings are the highest for any engineering department in India. During the last 5 years, more than 400 peer reviewed international papers have been published and more than 50 sponsored research projects have been successfully completed. The Department graduates 75 B. Chem. Engg., 45-50 Masters students and 25-30 Ph.D. students every year. At present Department has more than 200 Ph.D. students working on various research problems keeping in tune with present day needs. The support for these students come from University Grant Commission **(until 2018)** as the Department is recognized as the Centre of Advanced Studies in Chemical Engineering, Department of Atomic Energy, Department of Biotechnology, CSIR, Department of Science and Technology, and several industry sponsored projects.

Major Thrust of Research Areas:

- Development of Novel Reactors, Reactions and Separation Processes
- Computational Fluid Dynamics for Multiphase Systems
- Analysis of Multiphase Phenomena
- Novel Catalytic Materials and Processes,
- Green Technology
- Surfactant Science and Hydrotropy
- Development of Organic Chemical Processes
- Adsorptive and Chromatographic Separations
- Cavitation Phenomena, Sonochemistry
- Drying of industrial and food products

- Industrial Crystallization and Filtration
- Advanced Separation Techniques
- Energy Engineering
- Material Science
- Biotechnology
- Nanoscience and Nanotechnology
- Biochemical Characterization
- Technologies for society such as energy efficient cooking, food processing and preservation, water treatment, waste utilization

The Department of Chemical Engineering of ICT has a unique distinction in terms of awards received by the faculty members. Major Awards and Honors to the Faculty:

- Padma-vibhushan, Padma-bhushan, Padma-shree by Government of India
- Fellowships of TWAS, Royal Society (UK), INSA, NASI, INAE, IASc, MASc
- J. C. Bose Fellowship
- S. S. Bhatnagar Award
- Viswakarma medal
- VASVIK Awards
- INSA Medals for Young Scientists, Associates of Indian Academy of Sciences, INAE Young Engineer Award, Young Scientist award of NASI
- I. I. Ch. E. Awards for excellence in Basic and Applied Research
- Membership of Policy Making Bodies of Government (State & Central)
- Membership of the Editorial Boards of Reputed International Journals
- Directorship of Public Limited Companies

The "HOMEPAPER" or "DESIGN PROJECT" of the final year undergraduate students have been repeatedly rated as the best by IIChE and Ambuja Cements and Sir P.C. Ray Foundation. The Ph.D. students have also bagged many awards at national and international conferences. Students have also received Outstanding Young Chemical Engineer (OYCE) of IIChE several times. The prestigious N. R. Kamat Chemical Engineering Quiz Trophy have been won by Chemical Engineering Department many times in succession. The chemical engineering research students have also won several prestigious awards such as **Bill & Melinda Gates Foundation Award, Dell Social Innovation Award, Agilent young researcher and Mondialogo Award of UNESCO.**

The department has dedicated all the activities for the benefit of chemical industry and society. This is also reflected in the vision and mission of the Department.

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 conductive 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.

Department of Chemical Engineering in tune with the best

The undergraduate program has an intake of 75 students. The course syllabus has been designed by keeping in mind the Chemical Engineering syllabi of various international institutions. It is regularly updated keeping in mind the changing needs of the times. Nearly 50% of our undergraduate students choose to pursue further education in the topmost universities worldwide, namely, MIT, Minnesota, Stanford, Caltech, Delaware, UC Santa Barbara, Purdue, etc. The remaining opts for jobs in the Chemical Industry. The students are well paid and picked up by the top most industry within the country as well as outside the country well before the course gets over. The course content is thus geared towards a combination of rigorous theory and practical applications. The course is intended to bring out Chemical Engineers that can serve the academia and industry in particular and society and the nation in general. The course syllabus contains a combination of theory courses as well as laboratory experimentation. This inculcates a habit of relating observations to fundamentals. In addition, the students spend six – eight weeks in industry during their vacations, so as to update themselves with real life industrial situations. In doing so, they get an opportunity to apply theory to real – life problems. The students are also made to do independent projects, seminars and home papers. This develops their independent thinking and creative ability. It

helps them analyze a given problem through various angles and synthesize innovative engineering solutions. Faculty members share their learning in industrial consultation in their classroom teaching. Undergraduate students are encouraged to carry out undergraduate summer research in ICT as well as other premier research institutes. Sometimes this work is also published in International peer reviewed journals. All these features make the Chemical Engineering course, most sought after in the country. The Chemical Engineering Department also caters to the 7 branches of Chemical Technology of the B. Tech. courses as well as Pharmacy in the relevant subjects.

Chemical Engineering Department also offers **Master of Chemical Engineering** course with intake of 30-40. This is a two year course with one year dedicated for research activity. Students work on real life problems faced by industry using modern research tools. Department also caters to other M. Tech courses such as **Green Technology**, **Bioprocess Technology, Perfume and Flavor Technology.** Looking at the importance of safety in chemical operations and frequent request from Industry, Department has also started since 2015, a Certificate course in **Chemical Safety Management**.

The programs conducted by the Department have excellent placement records. About 50% students pursue their career in Research and opt for M.S. and Ph.D. degree in leading US universities and other countries. Some of the students enroll for Management degree in IIMs and the rest of the students get placed in Chemical and allied Industries. The salary range for students placed in industries is 6 to 20 lakhs per annum.

The chemical engineering department of ICT has lion's share in the first generation entrepreneurs, since the inception of the Institute. Out of over 600 first generation entrepreneurs of ICT, almost 50% are from Chemical Engineering Department. However, these developments took place due to certain geographical advantages of Mumbai, such as being close to harbor or being an international trade center. **The entrepreneur development cell is being proposed to promote the spirit of techno-entrepreneurship in a bigger way.** This will catapult ICT into the world stage as Stanford of East.

Almost all the faculty members of the Department have Ph.D. Degree and guide Ph.D. students. The faculty members have world recognition in their chosen field of research. **Due to consistent interaction with Industries, the faculty members impart knowledge beyond syllabus to the students and prepare them for the needs for society.** Many of the faculty members have been awarded as Best Teacher at State and National level. Faculty members apart from teaching, research and industrial consultation, also help in government bodies in policy making and proposal evaluations. **Some of the faculty members also serve on editorial board of prestigious International journals.** The Department has vibrant environment and young faculty members are trained and supported by senior faculty to solve their problems. At present, the average age of the faculty members in the Department is 46. Due to the spectacular performance of the Department in last several decades, Department has

attracted many young scientists/researchers from reputed universities abroad to be part of faculty members on regular positions, faculty recharge programs, INSPIRE program and DAE scientist positions. Department also has several endowment positions which help to attract and retain young as well as experienced teachers and researchers. **Recently Dr. (Ms.) Mannepalli Lakshmi Kantam, Former Director of IICT, Hyderabad, has joined as Dr. B. P. Godrej Distinguished Professor and Dr. Pushpito K. Ghosh, Former Director of CSMCRI has joined as K. V. Mariwala – J. B. Joshi Distinguished Professor.** Apart from regular full time endowments, Department has several other endowments under which Scientists/ Professors from foreign/other universities visit us, deliver lectures, interact with faculty and students.

Collaborative Academic Programs have been initiated with national and international institutes/R&D laboratories and industries. Following is the list of major organizations:

National:

- National Chemical Laboratory, Pune, India
- Kolhapur Zilla Sahakari Dudh Utpadak Sangh Ltd. (Gokul Dairy)
- NMIMS- Nanoparticle synthesis and characterization
- COEP, Pune
- Bhabha Atomic Research Centre, India
- Dr. Babasaheb Ambedkar Technological University, Lonere
- Sardar Patel College of Engineering, Mumbai
- Shri Guru Gobind Singhji Institute of Engineering and Technology (SGGSIE&T), Nanded
- International Centre for Gentic Engineering and Biotechnology (ICGEB), New Delhi,
- CSIR-National Institute for Interdisciplinary Science and Technology, Trivandrum, India,
- Centre for Advanced Bioenergy Research, Indian Oil Corporation Limited, India, DBT New and Extension Proposals, Indo Australia Grand Challenge Project, Indo UK BBSRC RICEFUEL Project
- The Energy and Resources Institute (TERI), New Delhi, , Indo Australia Grand Challenge Project
- CSIR-Central Salt and Marine Chemical Research Institute (CSIR-CSMCRI), Bhavnagar, India, Indo UK BBSRC SuBBSea Project
- Tata Institute of Social Sciences, Mumbai (TISS),
- Chemical Engineering Department, VIT, Pune
- Chemical Engineering Department, Sinhgad Institute of Technology, Pune
- Chemical Engineering Department, AISSMS College of Engineering, Pune
- Chemical Engineering Department, VNIT, Nagpur
- National Institute of Research in Reproductive Health, Parel, Mumbai
- Foundation of Medical Research, Mumbai, India
- National Burns Centre, Airoli, Navi-Mumbai

International Collaboration:

- Bradford University, UK, Co-crystallization under UKIRI
- Centre for Tropical Crops and Biocommodities, Queensland University of Technology, Brisbane, Australia,Prof. William Doherty, Dr. Philip Hobson, Indo Australia Grand Challenge Project.
- Centre for Energy, The University of Western Australia, Perth, Australia, Prof. Dongke Zhange, Indo Australia Grand Challenge Project.
- CSIRO Energy Transformed Flagship, North Ryde, New South Wales, Australia,
- Dr. Victoria Haritos, Indo Australia Grand Challenge Project.
- NSW Department of Primary Industries, New South Wales, Australia,
- Dr. Tony Vancov, Indo Australia Grand Challenge Project.
- Centre for Biomolecular Sciences, University Park, The University of Nottingham, UK, Prof. Nigel Minton, Indo UK BBSRC RICEFUEL Project.
- School of Biological Sciences, Queens University of Belfast, UK, Prof. Christine Maggs, Indo UK BBSRC SuBBSea Project.
- School of Biological and Biomedical Sciences, Durham University, Prof. John Bothwell, Indo UK BBSRC SuBBSea Project.
- Institute of Biological, Environmental and Rural Sciences, Aberystwyth University, Aberystwyth, Dr. David Bryant, Indo UK BBSRC SuBBSea Project.
- Centre for Synthetic and Systems Biology and School of Biological Sciences, The University of Edinburgh, Edinburgh, UK, Dr. Chris French, Indo UK BBSRC SuBBSea Project.
- Bangor University, Bangor, Gwynedd, UK, Dr. Katherine Steele, Dr. Lewis Le Vay, Indo UK BBSRC SuBBSea Project.
- The University of York Wentworth Way, York, UK, Dr. Neil Bruce, Dr. Simon Mc Queen Mason, Indo UK BBSRC RICEFUEL Project.
- Institute for Cell and Molecular Biosciences, Newcastle University, UK, Dr. Harry Gilbert, Indo UK BBSRC RICEFUEL Project.
- Department of Biological and Medical Sciences, Oxford Brookes University, UK, Dr. David A Fell, Indo UK BBSRC RICEFUEL Project.
- Department of Chemical Engineering, Centre for Process System Computations, Curtin University, Perth, Western Australia, Prof. Vishnu Pareekh, Dr. Ranjit Utikar, Indo Australia Grand Challenge Project, AISRF DBT Project.
- National University of Singapore, Singapore
- Norwegian University of Science and Technology, Norway
- Lappeenranta University of Technology, Finland
- Otto von Guericke University of Magdeburg, Germany
- King Mongkut´s University of Technology (KMUTT) – Bangkok, Thailand
- University of West Hungary, Hungary
- University of Paderborn, Germany
- Professor Prodromos Daoutidis,

- University of Minnesota.
- University of New Castle
- University of Minho, Portugal

Industries at International level:

- The Coca Cola Company
- Bio-Rad laboratories USA
- Pepsico Inc, USA
- British Petroleum International
- Oxbow Ltd.
- Ecosphere Technologies

The Department is well-equipped with the state of art research facility. The list of major instrument added in last five years is provided below:

- Maliksons LAB-30` Laboratory Model Single Screw Extruder
- Microreactors
- Scanning electron microscope
- Particle size analyzers, Bettersizer
- Particle size analyzers, Malvern
- High performance computing
- Thermal Imager Testo 885-2
- Variable Wavelength Detector VWD-3100
- High Speed Refrigerated Centrifuge
- Micro Ultra Centrifuge
- Nitrogen Generator
- Fixed Bed Micro Reactor
- High Pressure Reactor
- Agilient Nano-LC
- Agilient Capillary Electrophoresis
- ICP-AES
- GC-MS
- HPLCs with different detectors

Centres of Excellence in Department

In the X^{th} and XI^{th} Five Year Plan, BARC and Department of Chemical Engineering, ICT had undertaken a joint research program 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 program 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 synergize the strengths of both these Organizations. The Centre strives to develop innovative technologies to tackle the problems of efficient nuclear fuel utilization in the second and third stages of nuclear power program.

Based on the spectacular and consistent performance of the Department of Chemical Engineering, UGC has awarded 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 for better collaboration
4. Augmentation of information resource facility of the Department to provide quality research information to other institutes/researchers
5. To enhance and build the 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 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 the 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 program are undertaken which are publicized on the homepage of the institute and also communicated to all chemical engineering Departments.

IIChE Chemical Engineering Congress (ChemCon, 2013)

Ozone Day Celebration, 2015

World Forum for Crystallization, Filtration and Drying (2013, 2014)


8th
World Forum for Crystallization, Filtration & Drying
February 27-28 and March 1, 2014


8th
World Forum for Crystallization, Filtration & Drying

Activities under UGC-NRC centre


Welcome

1. **Year of establishment: 1934**

2. **Is the Department part of a School/Faculty of the university? Yes**

3. **Names of programmes offered:**

Sr. No.	Course	UG/PG	Degree Abbreviation
1	Bachelor of Chemical Engineering	UG	B. Chem. Engg.
2	Master of Chemical Engineering	PG	M. Chem. Engg.
3	Ph.D. (Tech)		
4	Ph.D. (Sci)		

4. **Interdisciplinary programmes and departments involved:**

Sr. No.	Course	Other depts. Involved
1	M.Tech. (Bioprocess Technology)	Foods, DBT-ICT Centre
2	M.Tech. (Green Technology)	Chemistry, Polymers, Oils
3	M.Tech. (Perfumery and flavour Technology)	Dyes, Oils and Pharmaceutical

5. **Courses in collaboration with other universities, industries, foreign institutions, etc.**

Sr. No.	Course	UG/PG
1	Post graduate Diploma in Chemical Technology	PG/ PhD/ industry personnel
2	Certificate course on safety and risk management	PG

6. **Details of programmes discontinued, if any, with reasons: No**

7. **Examination System: Semester**

8. **Participation of the department in the courses offered by other departments:**

Sr. No.	Course	UG/PG
1	B.Tech.	UG
2	M.Tech. Bioprocess Technology	PG
3	M.Tech. Green Technology	PG
4	M.Tech. Perfume and flavour Technology	PG

9. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/ Asst. Professors/others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	05	02	08
Associate Professors	06	02	02
Asst. Professors	06	02	02
Other	-	08	09

*Other includes endowment positions, INSPIRE fellows and UGC FRPs

1. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance.**

Sr. No.	Name of the faculty member	Highest Qualification	Designation	Area of Specialization	Experience (years)	Research Under Guidance (Ph.D.) Last four years
1	Prof. G. D. Yadav	PhD	Professor	Catalysis, process intensification	37	17
2	Prof. B. N. Thorat	Ph. D.	Professor and Head Department of Chemical Engineering	Drying and Filtration	28	7
3	Prof. Arvind M. Lali	Ph. D.	Professor of Chemical Engineering Head- DBT-ICT CEB	Chemical Engineering	30	8
4	Ashwin W. Patwardhan	Ph. D.	Professor	Chemical Engineering, Transport Phenomena, Computational Fluid Dynamics	19	6
5	Vishwanath Dalvi	Ph.D	R. A. Mashelkar Assistant Professor	Chemical Engineering (specifically applied thermodynamics and statistical mechanics)	7	0
6	Parag R. Gogate	Ph. D.	Associate Professor in Chemical Engineering atInstitute of Chemical Technology, Mumbai	Sonochemistry, Hydrodynamic Cavitation, Process Intensification, Water and Wastewater Treatment, Enzymatic Reactions, Polymer Chemistry, Advanced Oxidation Processes	15	06
7	Jyeshtharaj B. Joshi	Ph.D	Honorary Distinguished Professor	Chemical Engineering (Fluid Mechanics, Multiphase Reactor Design, Computational Fluid Dynamics, Atomic Energy, Solar Energy, Bio-Energy)	43	06
8	Prof. Sunil S. Bhagwat	Ph.D.	Professor of Chemical	Energy and exergy, Interfacial science and	31	4

			Engineering	engineering, computer process simulations		
9	Anand V. Patwardhan	PhD	Professor of Chemical Engineering	Chemical Engineering (Membrane Separation, Green Technology)	30	6
10	Dr. C. S. Mathpati	Ph.D	Assistant Professor	Computational Fluid Dynamics, Multiphase Reactor Design, High temperature corrosion analysis	8	2
11	Virendra K. Rathod	Ph.D	Professor	Natural production extraction, advanced separation, process development, sonochemistry	14	13
12	P D Vaidya	PhD	RCF Associate Professor of Chemical Engineering	Separation, Reaction Engineering	10	05
13	K V Marathe	M.Tech.	Associate professor in metallurgical engg	Waste water treatment, membrane separation, photocatalytic ozonation, life cycle assessment, sustainability analysis	31	04
14	Dr. Ratnesh Jain	PhD (Pharmaceutics)	UGC-Assistant Professsor	Biomaterials, Biologics and Biosimilar characterization, Biologics formulation, continuous process development for nanoparticles	05	--
15	Dr. Jyoti Sontakke-Gokhale	Ph.D	UGC Assistant Professor	Bioprocess Technology, Food Biotechnology, Waste Management	3	--
16	Prof. A. B. Pandit	Ph.D.	UGC Research Scientist, "C" (Professor)	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.	30	14

17	Pushpito Kumar Ghosh	PhD Chemistry	Distinguished Professor	Chemical Science (Innovation and Process Research)	40	--
18	Prof. M Lakshmi Kantam	PhD	Dr. B P Godrej Distinguished Professor	Chemistry	35	--
19	Prof. V. G. Gaikar	Ph.D (Tech.)	Bharat Petroleum Distinguished Professor of Chemical Engineering & Vice-Chancellor, BATU, Lonere	Reactive Separations, Molecular simulations, Clean Technology, Biofuel, Product Design	33	13

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors:

Sr. No.	Name	Designation
1	Professor M. M. Sharma	Emeritus professor
2	Dr. M. Sriram	Visiting Faculty
3	Mr. Yogesh Anvekar	Visiting Faculty
4	Ms. Anjali Mujumdar	Visiting Faculty
5	Mr. Goyal O.P.	Visiting Faculty
6	Dr. Ravi Mariwala	Visiting Faculty
7	Mr. Anirudha Shenvi	Visiting Faculty
8	Dr. Sachin Jadhav	Research Associate

List of Endowments:

Sr. No.	Date	Name of External Experts	Topic	Endowment
	28.11.2013	Professor D.H. Thompson	Cyclodextrin Based Materials for Gene Delivery and Niemann-Pick C Type Therapy	Shri G.M. Abhyankar Memorial Distinguished Fellow
	28.11.2013	Professor D.H. Thompson	Cyclodextrin Based Materials for Gene Delivery and Niemann-Pick C Type Therapy	Shri G.M. Abhyankar Memorial Distinguished Fellow
	02.01.2014	Professor Prashant Jain	Elucidating Chemical Reactions on the Nanoscale	Golden Jublee Visiting Fellowship

	09.01.2014	Professor R. Krishna Univ. of Amsterdam	Molecular Traffic in Nanoporous Materials	B S Joshi Distinguished Fellow
	16.01.2014	Dr. Ken Williams	The science and technique behind Raman Spectrometer and its application in Material Sciences	TEQIP
	30.01.2014	Dr. Uday Shenoy	Targeting and Network Synthesis for Optimal Use of Resources	Shrimati Kusumben and Shri Mathradas Kothari Visiting Professorship
7	4.02.2014	Prof. Artur Cavaco-Paulo,	Micro/nanotechnology and Biotech for pharma and personal care	Professor B.D. Tilak Visiting Fellowships
8	20.02.2014	Dr. Allen P. Minton	How biochemistry in vitro can differ from biochemistry in vivo	K.J. Somaiya Visiting Professor Fellowship
9	13.03.2014	Kiran Golwalkar	Safety Management and Project Management in Chemical Industry	Prof. R.A. Rajadhyaksha Memorial Lecture
10	27.03.2014	Kiran Golwalkar	Safety Management and Project Management in Chemical Industry	TEQIP
11	07.04.2014	Prof. Suresh Bhatia	Quantum molecular sieving of light isotopes	Golden Jublee Visiting Fellowship
12	17.04.2014	Prof. Dr. Asit Baran Mandal	How much we know about self-aggregated / self assembled systems? Utility of various techniques	B.D. Tilak Visiting Fellow
13	21.04.2014	Prof. Alfredo Ortiz	The importance of Ionic Liquids for attaining sustainable process intensification	Golden Jublee Visiting Fellowship
14	02.05.2014	Dr. Jeff Kenvin	Textural Characterization and a Unified Approach to Isotherm	K.J. Somaiya Visiting

			Modeling & Thermodynamic Parameters	Professor
15	29.05.2014	Prof. S.P. Moulik	Energetic of Micelle formation: Non agreement between the Enthalpy Measured by the direct method of Calorimetry &the indirect method of Van't Hoff	Dr. J.P. Kane Visiting Fellowship
16	09.07.2104	Dr. Garg	Simultaneous Production of US Grade Gasoline and Pure Aromatics from High Severity FCC Gasoline	Prof. R.A. Rajadhyaksha Memorial Lecture
17	14.07.2014	David Hodge	Alkaline and Oxidative Chemical Pretreatments and Fractionations for the Production of Fuels, Chemicals, and Materials from Lignocellulose	Golden Jubilee Visiting Fellowship
18	16.07.2014 17.07.2014	Ashutosh Sharma	Self-organization on Small Scales: Fabrication beyond the Top-down and Bottom-up	Shri V.V. Mariwala Visiting Professorship
19	28.07.2014	Dr. R. Vinu	Energy and Resource Recovery via Catalytic Fast Pyrolysis of Biomass, Polymers and Algae	-
20	16.09.2014	Prof. M.M. Sharma	Reminiscences of a career	-
21	29.09.2014	Professor Bala Subramaniam	Resource-Efficient Catalytic Technologies for Emerging Feedstocks	The Dow Professor M.M. Sharma Distinguished Visiting professorship in Chemical Engineering
22	15.12.2014	Dr. Nejat Rahmanian	Seeded Granulation	K.J. Somaiya Visiting Professorship
23	21.01.2015	Prof. P.Somasundaran	Structure Property/Performance Relationships for Synergy and Antagonism New possibilities	Dr. Balwant S. Joshi Distinguished

			of greener chemicals for sustainable and benign consumer products	Visiting Professorship
24	10.2.2015	Prof. Mohan Karmarkar	Practical Reactor Design	-
25	20.08.2015	Dr. Surendra U. Kulkarni E-301 Mantri Woodlands, Bannerghatta Road,Bangalore-560076	Water - Technologies for its security in future	Professor R.A. Rajadhyaksha Memorial Lecture
26	28.08.2015	Dr. Madhukar Rao	Green Polymer Technology for Coatings Applications: An Innovation Story from Ideation to Commercialization"	Golden Jubilee Visiting Fellowship
3 27	04.09.2015	Mr. Ahmet Üzümcü Director-General, Organisation for the Prohibition of Chemical Weapons (OPCW)	Ionic Liquids in Industry	
28	21.09.2015	Prof. Pradeep B. Deshpande Professor Emeritus of Chemical Engineering, University of Lousville & President, Six Sigma and Advanced Controls, Inc.	Profound Implications of Minimum Variance Control"	Golden Jubilee Visiting Fellowships Fellow
29	29.08.2016	Prof. Bipin Vora Consultant and R & D Advisor UOP/Honeywell Fellow (Retired) AICHE	"From Concept to Commercialization	The Dow Prof. M.M Sharma Distinguished Visiting Professorship

		Fellow,1324 Kallien Avenue, Naperville, IL 60540		in Chemical Engineering
30	18.01.2016	Prof. Doraiswami Ramkrishna Harry Creighton Peffer Distinguished Professor School of Chemical Engineering Purdue University	Analysis of Bioprocesses. Dynamic Modeling is a Must	Professor B.D. Tilak Visiting Fellowships
31		Dr. Gautam G. Yadav Energy Institute, City College of New York, New York	Advanced Alkaline MnO2-Zn Batteries: Accessing the Second Electron Capacity	Golden Jubilee Visiting Fellowship
32	01.02.2016	Prof. G.V. Reklaitis School of Chemical Engineering NSF ERC for Structured Organic Particulate Systems, Purdue University Wet Lafayette IN	Recent Advances in Continuous Pharmaceutical Manufacturing	Professor B.D. Tilak Visiting Fellowships
33	22.03.2016	Prof. Rajagopalan Srinivasan Indian Institute of Technology Gandhinagar Vishwakarma Government Engineering College Complex, Chandkheda, Visat-Gandhinagar Highway, Ahmedabad, India	Cognitive Engineering for Process Safety: Quantifying the Building Blocks of Human Error	Dr. G.P. Kane Visiting Professorship in Chemical Engineering
34	10.11.2016	Prof. Zhou Weibiao Professor & Director, Food Science & Technology Programme, National University of Singapore	Designing advanced control systems for modern bread-making process: from dough freezing to bread baking"	Professor Arun Mujumdar Distinguished Visiting Professor

35	24.11.2016	Mr. S.Ganapathy, M.S., FIE Chartered Engineer & Project Consultant	Status of Chemical Industries in India & Job Prospects	
36	14.12.2016	Prof. Wilhelm Höflinger Krems/Lower Austria, Austria	1) Fundamentals and measurement of particles Characterization of particle systems 2) Particle size measurement methods Optical imaging methods	Professor B.D. Tilak Visiting Fellowships
37	23.12.2016	Prof. Vikramaditya G. Yadav Assistant Professor in Department Of Chemical & Biological Engg. University of British, Columbia	Building Brains: Marrying Engineering & Medicine in the Fight Against Alzheimer Disease	Shri G.M. (alias Dada) Abhyankar Memorial Distinguished Fellowship in Chemical Engineering
38	13.01.2017	Prof. Daniel G. Nocera Chemist & leading Researcherin renewable energy	Fuels to Food from Sunlight, Air and Water	Shri V.V. Mariwala Visiting Professorship in Chemical Engg
39	21.01.2017	Dr. Rajender S. Varma United States Environmental Protection Agency	Greener routes to Organics and Nanometerials: Sustainable Applications of Magnetic Nanocatalysts and Modified Graphitic Carbon Nitrides in Catalysis and Environmental Remediation	Shri K.J. Somaiya Visiting Professorship in Chemical Engg.
40	25.01.2017	Dr. Ajay Kumar Dalai Professor of Chemical Engineering University of Saskatchewan, S K Canada	Novel Activated Carbon Materials Development for Various Industrial Applications	Smt. Kusumben and Shri Mathradas Kothari Visiting Professorship In Chemical Engg.
41	01.02.2017	Prof. Sivaram Arepalli Department of Chemical	Status and Future of Nanomaterials in Energy	Golden Jublee Visiting

		and Biomolecular Engineering, Rice University, Houston, TX	Storage	Fellowship
42	23.02.2017	Mr. Dilip Kapasi, Lead Process Engineer Project Management, LNP Projects, United States	Status of LNG, Regasification plants w r t India * Deepwater gas exploration - topside/MEG * Role of a chemical engineer in today's India * ICT- our strongest Instituion from a vantage point	Golden Jubilee Visiting Fellowship In Chemical Engg
43	18.04.2017	Dr. Mugdha Gadgil Sr. ScientistNational Chemical Laboratory, Pune	Recombinant biopharmaceuticals: from choosing the best clones to managing product quality	Professor R.A. Rajadhyaksha Memorial Lecture series Endowment in Chemical Engineering
44	18.07.2017	Prof. Amol V. Janorkar Biomedical Materials Science, School of Dentistry University of Mississippi Medical Centre, Jackson, MS, USA	Multifunctional Biopolymer Coatings and Scaffolds for Tissue Engineering and Drug Delivery	Golden Jubilee Visiting Fellowship
45	02.08.2017	Prof. Doraiswami Ramkrishna H.C. Peffer Distinguished Professor, Purdue University West Lafayette, USA	Modeling Transfer of Antibiotics Resistance among Bacterial Species	Dr. Balwant S. Joshi Distinguished Visiting Professorship in Chemical Engineering/Chemical Technology/Applied Chemistry
46	07.08.2017	Professor Upal Ghosh Associate Editor, Environmental Toxicology and Chemistry ,Department	Remediation of Polluted Sediments by Controlling Bioavailability	Golden Jubilee Visiting Fellowship

		of Chemical, Biochemical, and Environmental Engineering, University of Maryland Baltimore County Technology Research Center. Rm 257,5200 Westland Blvd Baltimore, MD 21227		
23	14.08.2017	Professor Rajesh Shende Associate Professor of Chemical Engineering Department of Chemical and Biological Engg South Dakota School of Mines and Technology Rapid City, South Dakota 57701	Advanced Nanomaterials for Hydrogen and Biofuels Production	

We do not have temporary faculty. Subjects related to humanities, management and communication skills are taken by visiting faculty which contribute to 6-8% of total credits.

13. Programme-wise Student Teacher Ratio:

Sr. No.	Course	Student Teacher Ratio
1	B Chem Engg (UG)	10.12
2	M Chem Engg (PG)	1.6

14. Number of academic support staff(technical)and administrative staff: sanctioned, filled and actual

Sr. No.	Position	Sanctioned	Filled
1	Higher grade stenographer	2	--
2	Lower grade stenographer	2	1
3	Technical	21	12

15. Research thrust areas as recognized by major funding agencies:

1) Green chemistry and engineering
2) Energy science and engineering
3) Reactor Design
4) Advanced Separation Techniques
5) Biotechnology & biomedicine
6) Nanotechnology and materials science
7) Process systems engineering
8) Environmental protection and Hazardous waste management
9) Product Engineering
10) Food Dehydration

16. Number of faculty with ongoing projects from a) national b) international funding agencies and c)Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Sr. No.	Name of Faculty	Funding Agency	National/ International	Grant (in lakhs)	Duration	Project title
1	Thorat B. N.	Rajiv Gandhi Commission for S&T, Government of Maharashtra	National	25.36 lakhs		Ultrahealth: Water Fun Station
		Bill and Melinda Gates Foundation	International	63 Lakhs	1st Nov 2013 to 30th April, 2015	Solar Grain Dryer
		Bill and MelindaGates Foundation	International	63 Lakhs	1st May 2013 to 30th October, 2015	Solar Conduction Dryer
		Rajiv Gandhi Commission for S&T, Government of Maharashtra	National	88.48 Lakh	2 years	Jaggery Granulation
		Rajiv Gandhi Commission for S&T, Government of Maharashtra	National	194 Lakh	2 years	Industrial Scale dehydration of agricultural and marin food proucts value addition
		Gujrat Stevia Growers and Marketing	National	15.00	12th October, 2012 to 11th October	Stevia Processing

		Federation			, 2013	
		Gujarat Heavy Chemical Limited	National	10.00	2015	Eco-friendly detergent
		Bill and Melinda Gates Foundation	International	1 million USD	January 2016 to December 2016	Casava Tech
		Bill and Melinda Gates Foundation	International	1 million USD	January 2016 to December 2016	Solar Conduction Dryer
2	Bhagwat S S	IGCAR	National	25 Lakhs	3 years	Alternative methods/solvents for dissolution: (a) Methane sulphonic acid derivatives for dissolutions & electro winning, (b) Sonochemical method for dissolution of ThO2
		NTPC	National	71 Lakhs	4 years	Improvement of Turbine Cycle Heat Rate Through Multi-component Ammonia Liquor Absorption Engine (MALAE)
		BRNS	National	16 Lakhs	2 years	Development of foam formulation
		Rajiv Gandhi Commission for Science & Technology (RGCST)	National	266.8 Lakhs	4 years	Cold storage for Post harvest preservation of fruits & vegetables using Solar & Biomethane Heat Based

						Refrigeration
		British Petroleum Internationa l	National	54 Lakhs	4 years	Refrigeration utilizing waste heat as energy inputs
		Aditya Birla Group	National	1 Lakhs	1 year	Polymer Surface wettability
		IPCA	National	--	6 Months	Vapor-Liquid equilibrium thermodynamics
		FDC	National			Interfacial properties of eye drop formulations
		Tri-Diagonal Solutions (TDS)	National	8 Lakhs		Foaming and aeration
		Amines and plasticizers	National	2.53 lakh	3 years	Surface studies on lean amine solvents from gas treating units
		Marico	National	27.9 lakh	3 years	Rice bran oil extraction
		Marico	National	0.86 lakh	3 months	Properties of vegetable oils : application of neural networks
		Hindustan unilever limited	National	10 lakh	1 year	Oil-water interfacial tension of polymerized oils in presence of surfactants
		TEQIP	National	5.5 lakh	3 months	Process intensification using surfactants
3	Dalvi	Ministry of Food		25.00	3 years	Development of a Continuous Rice

	V.H.	Processing Industries		Lakh		Cooker
4	Gaikar V.G.	DAE	National	84.4 Lakhs	5yrs	Design of solvent and extractant by molecular modeling for heavy metals
		DAE	National	48.4 Lakhs	3 yrs	Experimental determination of H2-I2-HI-H2SO4 vapor-liquid equilibria
		(IGCAR)	National	24.725 Lakhs	3 yrs	Studies in Runaway reactions
		(IGCAR)	National	24.725 Lakhs	5 yrs	Studies on steam pyrolysis of a CHON Amide as a waste solvent management method
		(DST-AMCOS)	National	79.88 Lakhs	2008-2012	Advanced materials as CO2 removers: A computational study of CO2 sorption Thermodynamics and kinetics
		DST	National	52	3 yrs	Photochemical Reduction of CO2 using CdS particles on polymeric adsorbents
		Bharat Petroleum Corporation Limited	National	50	(2015-2017) 2yrs	Selection and Regeneration of potential ionic liquid for hydro processing feed stocks
		Bharat Petroleum	National	50	(2015-	Development of additive for use in

		Corporation Limited			2017) 2yrs	Delayed Coker Unit (DCU) to improve liquid yield
		DST	National	54.4	(2014-2018) 4yrs	Design of in situ photocatalytic systems for CO 2 conversion into useful organic materials using CdS Nanoparticles on the new polymeric CO 2 specific adsorbents and graphene supports
		HUL	National	Rs. 45 lakhs	Four years	Thermodynamics of Solubility of Tea components
		HUL	National	Rs. 10.5 lakhs	One year	Solubility of Ca-Stearate in water
5	Gogate P.R.	DST	National	10.2 Lakhs	2010-2012	Development of novel treatment strategies for treatment of water containing pesticides
		UGC	National	8.6 Lakhs	2011-2013	Process Intensification of emulsification and atomization
		Unilever, Bangalore	National	11.1 Lakhs	July 2013 to July 2014	Wastewater treatment
		DST (WTI Scheme), New Delhi	National	54.4	2016-2019	Treatment of Wastewater containing pesticides and emerging contaminants using novel

						approach of combined hydrodynamic cavitation and oxidation processes
		DST (MOFPI Scheme), New Delhi	National	41.4	2016-2019	Intensified recovery of valuable products from whey using ultrasound
		Mangalam Organics Ltd.	National	15	2017-2020	Improved processing of camphor, terpenes and resins
6	Jain R D	DAE-BRNS	National	16.95 Lakhs	Three years (2013-2016)	Polysaccharide Based Nanocarriers for Improved Therapy of Systemic Fungal Infections
		DST Nanomission	National	282 Lakhs	Three years (2014-2017)	Development and evaluation of siRNA loaded nanomedicine in computational and cellular Models
		DBT	National	32.5	5 year	Polymeric Nano carrier for siRNA Delivery
		Hetero Drugs Ltd., India	National	3.025	3 year	Characterization of Monoclonal Antibodies
		DAE-ICT	National	65.32	3 year	Conjugation and radio labelling of various nano-platforms for image guided theranostic applications
		Anya Biopharm,	International	20.34		Activity Reduction of Peptidase

		Taiwan				Enzymes by Various Metal Ion-Reducing Agent Combinations
		DBT	National	51.642	3 year	Green process for the production and purification of low molecular weight Chitosan Oligomer using solid acid catalyst
7	Jha N	DST	National	35 lakh	5 yrs	Development of electrocatalyst for fuel cell
8	Joshi J B	BRNS	National	159.14 lacs	5 yrs	Development of ACE
		DAE-BARC	National	221.00 lacs	5 yrs	Passive Decay Heat Removal system of AHWR
		DAE-IGCAR	National	150 lakh	5 yrs	Fumeless Dissolution in Thermo siphon and Rotary Dissolver
		DAE-BARC	National	Rs. 50.00 lakhs	2007-2012	CFD simulation of reactive (combustion) submerged gaseous jet under steady and unsteady state conditions
		DAE-BARC	National	Rs. 50.00 lakhs	2007-2012	Studies in Synthesis and Characterization of Carbon Nanotubes by Catalytic Chemical Vapor Deposition
		DAE-BARC	National		2010-2015	Studies on High Strength Carbon

						Fiber Composites
9	Lali A M	Bio-Rad laboratories USA	National	Rs. 22.50 lakhs	2008-2011	BioRad-MUICT Initiative on Adsorptive and Chromatographic Separations for Biotech and Allied Industry
		Pepsico Inc, USA	National	Rs. 98.17 lakhs	2008-2011	Assisted Extraction, Isolation and Scalable Chromatographic Purification & Biotransformation of Active Components from Plants/Herbs
		General Mills	National	$ 45000	2010-2011	Value Added Products from Milling By-products
		Chemtrols India Ltd	National	40.00 lakhs	2010-2012	Development of process for production of Lactic acid and Poly-lactic Acid
		DST, India	National	1210 Lakhs	2014-2016	Green Enzymatic fat-splitting technology for production of fatty acids and acyl glycerol
		DBT, India	National	1800 Lakhs	2013-2018	DBT-ICT Centre for energy biosciences: New and extension proposals
		DBT-BBSRC	National	806 Lakhs	2013-2016	Engineering enzymes, bacteria

						and bioconversion processes for advanced biofuels from waste grain straw
		DBT, India	National	39.84	2017-20	Biphasic fermentation for triacyl glycerol (TAG) production from pretreatedlignocellulosic biomass
		DBT-CEB/BIPP	National	50.00	2016-17	Pilot scale translational facility for value added chemicals from biomass
		DST-KGDS	National	61.35	2015-18	Performance and durability improvements in the solar thermal desalination system at Narippaiyur and utilization of reject sea water for algae cultivation to produce biogas
		DBT-AISRF, India	National	113.74	2015-2017	Integrated biorefinery for production of sorghum grain protein Phase II
		IGSTC, DST, India	National	115.40	2014-17	Design of selective nano-porous membrane bioreactor for efficient production of bio-butanol from lignocellulosic sugars

		DST, India	National	847.53	2014-16	Green Enzymatic fat splitting technology for production fatty acids and acyl glycerols
		DSIR-PACE, DST, India	National	85.00	2014-16	Macro-algal Biorefinery for CO2 Sequestration and production of biofuel and valued added compounds
		DBT-BBSRC/SuBBSea (Joint Indo-UK Scheme)	National	201.672	2014-17	Transnational approaches to resolving biological bottlenecks in macroalgal biofuel production
		MNRE, India	National	515.61	2013-16	Improved Production of Biogas and Bio-CNG from Lignocellulosic Biomass
		DBT, India	National	1833.00	2013-18	Centre for Energy Biosciences: New and Extension Proposals
		DBT-BBSRC/Ricefuel (Joint Indo-UK Scheme)	National	152.00	2013-16	Engineering enzy mes, bacteria and bioconversion processes for advanced biofuels from waste grain straw
		AISRF Indo-Australia Grand Challenge	National	700.30	2014-17	Integrated technologies for economically sustainable bio-based energy

		Program, DST, India				
		DBT, India	National	68.468	2013-16	Development and characterization of alternative affinity adsorbent for purification of therapeutic antibodies
		Godrej Agrovet Ltd.	National	100.00	2016-19	Developed of improved animal feed ingredient from seed meals
		Bacardi & Co. Ltd.	National	95.61	2015-16	Tea alcohol project
		Godrej AgrovetPvt. Ltd.	National	115.00	2014-16	Mass cultivation of algae for aqua feed
		WackerChemie AG	National	14.49	2014-15	Generation of purified phytoene from yeast cell mass
10	Marathe K V	DST		17 lakhs	2011-2013	Removal of flouride from concentrated stream obtained after membrane separation treatment of ground water
		PACE, Delhi	National	7.5	9 months	Life cycle assessment of PET bottles
		Konark Ind Ltd	National	17.5	36 months	Treatment of textile industry waster water
11	Mathpati	DAE	National	80 Lakhs		Thermal hydraulic studies related to

	C S					coolants for new generation reactors
		TEQIP, CoE-PI	National	16 Lakhs	1 year	Design aspects of two opposed jet microreactor: Experimental and computational fluid dyanamics
		United Phosphorous Limited	National	Rs. 26 Lakhs	2016-2020 (Four years)	CFD Simulation of Blood flow inside the Human Body
		DAE-BRNS	National	25,00,000/-	Three years	Computational fluid dynamics and experimental study of fluidization of lithium titanate particles in fluidized and packed fluidized bed
		Department of Atomic Energy (DAE)	National	72,40,000/-	Five years	Thermal hydraulic studies related to coolants for new generation reactors
12	Nemade P R	RCF Ltd	National	Rs 12.26 L	Jul 2012-Jun 2013	Development of Quality Water-resistant Gypsum Plaster
		BIRAC-Bill and Melinda Gates Foundation	International	Rs 25.00 L	1 year	Hygienic Water-Free Toilet
		SERB: Scheme for Young Scientists	National	Rs 22.40 L	3 years	Development of Polymerizable Ionic Liquid Membranes for Gas Separations
13	Pandit A B	Department of Atomic Energy under the	National	88.9 Lakhs	2005 – 2011	Characterization of cavitation phenomena and its applications in

		scheme of Knowledge based Engineering				solid-liquid mass transfer operations
		Javaharlal Nehru Center for Science Society – UGC	National	25 Lakhs	2009 – 2012	Development of novel cavitation based treatment schemes for water disinfections
		DST	National	9 Lakhs	2007 – 2010	Advanced oxidation processes for the degradation of organic pollutants in aqueous environment
		(IGCAR)	National	23.82 Lakhs	2008 – 2012	Design of Sodium Cold-Trap
		(IGCAR)	National	23.8 Lakhs	2008 – 2012	Preparation of Mono-Disperse MOX Sphere
		(IGCAR)	National	24.8 Lakhs	Pandit A B	Role of Cavitation and its Prevention in Sodium Pump
		(IGCAR)	National	21.5 Lakhs	2008 – 2012	Scale up of MOX Precipitation
		(IGCAR)	National	38 Lakhs	2015-2018	Characterization of the regeneration process for liquid sodium cold trap in secondary system of fast
		BPCL	National	25 Lakhs	2011-2014	Degradation of Industrial Wastewater
		Hindustan Unilever Ltd., Banglore	National	75 Lakhs	2013-2018	LDH Formation and Converging Diverging Cavitating

		ATUL LTD	National	Rs. 20 lacs	1 year (2016-2017)	Kinetics of Synthesis of p-Hydroxy Benzaldehyde
		Asian Paints	National	Rs. 3 lacs	1 year (2016-2017)	Recovery of Water of Esterification
		Department of Science and Technology	National	Rs. 75 lacs	3 years (2017-2020)	Sustainable processes for the development of keratin hydrolyte for the use as fertilizer, animal feed and pet food
14	Patwardhan A V	DST-SERB-Green Technology	National	36	36	Synthesis of novel membranes and their applications in waste minimization and recovery of valuable chemicals from dilute aqueous streams
		Department of Atomic Energy	National	Rs 72.4 Lakhs		"Transport of Actinides and Fission Products across Hollow Fibre Supported Liquid Membranes"
15	Patwardhan A W	IGCAR	National	24.2 Lakhs	2007 – 2011	"Thermal Mixer Design"
		IGCAR	National	Rs 24.9 Lakhs		"Flow Distribution in Inlet Plenum of Steam Generators"
		Unilever	National	29.5	2013 – 2016	Kinetics of polyphenol infusion
		DAE	National	58.0	2015 – 2018	CFD Modeling of Assymetric Rotating Disc

						Contactors
		IGCAR	National	43.75	2015 – 2018	Thermal Hydraulic Studies on Boiling in Long Vertical Tubes
		Unilever	National	30.2	2016 – 2019	Modelling of Kinetics of Tea Infusion
16	Rathod V K	IGCAR	National	24.57 Lakhs	2008 - 2011	Removal of dissolved TBP fro aqueous stream
		DST/FAST TRACK	National	19.00 Lakh	2008 - 2011	Biodiesel from Waste Frying oil
		Konark Industries	National	18 Lakh	3 years	Extraction of curcumin
		Harman Finochem limited, Aurangabad	National	3 Lakh	2 years	Optimisation and kinetic study of metformin hydrochloride.
		Gujarat Alkalies and chemical limited	National	14 Lakh	6 months	Separation technique using synthetic mixture of major and by-product formed in catechol-hydroquinone process at laboratory scale and pilot scale.
17	Sontakke S M	DST	National	35 lakh	5 years	Development of anodic material for dye sensitized solar cell
18	Vaidya P D	University Grants Commission	National	7.47 Lakhs	1st Februar y 2011 to 31st January 2014	CO2 capture using novel amines
		Carbon	National	12.31Lak	1st	Novel solvents for

		Clean Solutions Pvt. Ltd.		hs	October 2010 to 30th Septem ber 2011	CO2 capture from flue gas
		DST	National	29.82 Lakhs		Diesel Production by Karanja-oil hydrotreatment
		Indian Oil	National	80.5	16.04.1 5 to 15.04.1 7	Aqueous-phase reforming of methanol and bio-oil to hydrogen
		Atul Limited	National	11.5	2016 to 2017	PHBA production from p-cresol - A study on reaction kinetics
19	Yadav G D	DAE	National	95.00		Self assembly of tethered nanoparticles :Macromolecule' for tailored nanomaterials
		DST-Indo-Finnish Project	National	30.00		Sustainable catalytic chemical synthesis with carbon dioxide as feedstock (University of Oulu, Finland)
		Ministry of Chemicals and Fertilisers; Hindustan Insecticides	National	167.00		Alternatives to DDT: Synthesis of New Molecules , Toxicological Studies and Scale - Up
		ONGC Energy Centre	National	12.00		Some preliminary studies on HI synthesis
		ONGC Energy	National	860.00		ICT-OEC novel process for production of

		Centre				hydrogen
		DST- Indo-EU New Indigo Project	International	€ 50000		Green Water Tech (with University of Cantabria, Santander, Spain & University of Oulu, Finland)
		UK India Education and Research Initiative (UKIERI)	International	25.00		Green processing technologies for poorly soluble drugs (with University of Bradford)
		Indo-US S & T Forum	International	50.00		Centre on PROTECT: Program for Research on Thin-Films and nanostructured Emerging Coating Technologies (with SUNY Buffalo, NY)
		ONGC Energy Centre	National	200.00		Molten salts for energy storage
	2015-on	Malladi Drugs & Pharmaceuticals, Chennai	Dynamic Kinetic Resolution of D-Ephedrine to L-Ephedrine	2015-on	Malladi Drugs & Pharmaceuticals, Chennai	
	2015-16	Malladi Drugs & Pharmaceuticals	Process intensification of existing catalytic process for synthesis of phenylpropanolamine and	2015-16	Malladi Drugs & Pharmaceuticals	

			development of novel catalyst for higher yield			
	2015-16	Resonance Specialities Ltd., Mumbai	Green process development for important lutidines and collidines	2015-16	Resonance Specialities Ltd., Mumbai	
20	J.B. Joshi	DBT	National	34.00	1997-2001	Design of Fermenters for Shear Sensitive Proteins and Enzymes.
		LRI	National	3.00	1994-2001	Efficient scale-up of solar cookers
		Reliance Ind. Ltd.	National	6.00	1998-2002	Development of new impellers designs for three phase stirred reactors
		Hindustan Polymides and fibres Ltd	National	5.00	2002-2005	Solar Energy based refrigeration systems
		United Phosphorus Ltd.	National	7.00	2002-	Miniaturization of liquid-liquid extraction Equipment
		BRNS	National	150.00	2002-2010	Development of jet reactors
		Department of Atomic Energy	National	150.00	2003-2010	Knowledge Based Engineering: Improvements in reactor design, heavy water production efficiency, nuclear waste management and development

						of novel separation processes.
		BRNS	National	150.00	2007-2010	Development of Annular Centrifugal Extractors
		Department of Atomic Energy	National	7500.00	2008-2017	Chemical Engineering Education and Research
		Department of Biotechnology	National	2400.00	2007-2012	Energy Biosciences
21	Prof. A.M. Lali	DBT, India	National	39.84	2017-20	Biphasic fermentation for triacyl glycerol (TAG) production from pretreatedlignocellulosic biomass
		DBT-CEB/BIPP	National	50.00	2016-17	Pilot scale translational facility for value added chemicals from biomass
		DST-KGDS	National	61.35	2015-18	Performance and durability improvements in the solar thermal desalination system at Narippaiyur and utilization of reject sea water for algae cultivation to produce biogas
		DBT-AISRF, India	National	113.74	2015-2017	Integrated biorefinery for production of sorghum grain protein Phase II

		IGSTC, DST, India	National	115.40	2014-17	Design of selective nano-porous membrane bioreactor for efficient production of bio-butanol from lignocellulosic sugars
		DST, India	National	847.53	2014-16	Green Enzymatic fat splitting technology for production fatty acids and acyl glycerols
		DSIR-PACE, DST, India	National	85.00	2014-16	Macro-algal Biorefinery for CO2 Sequestration and production of biofuel and valued added compounds
		DBT-BBSRC/SuBBSea (Joint Indo-UK Scheme)	National	201.672	2014-17	Transnational approaches to resolving biological bottlenecks in macroalgal biofuel production
		MNRE, India	National	515.61	2013-16	Improved Production of Biogas and Bio-CNG from Lignocellulosic Biomass
		DBT, India	National	1833.00	2013-18	Centre for Energy Biosciences: New and Extension Proposals
		DBT-BBSRC/Ricefuel	National	152.00	2013-16	Engineering enzy mes, bacteria and bioconversion

		(Joint Indo-UK Scheme)				processes for advanced biofuels from waste grain straw
		AISRF	National	700.30	2014-17	Integrated technologies for economically sustainable bio-based energy
		DBT, India	National	68.468	2013-16	Development and characterization of alternative affinity adsorbent for purification of therapeutic antibodies
22	Pushpito Ghosh	TEQIP INN	National	Rs 300 lakhs	2 years	Innovation Networking
		Department of Science & Technology, New Delhi	National	1 lakh Rs 30 lakhs (approx.)	2016-19	Quick survey of Marathwada Region facing acute water crisis with focus on study of usage pattern and prospect of wastewater recycle and reuse
23	Prof. M Lakshmi Kantam	Marvel Drugs Pvt. Ltd.,	National	8	1 year	Development of Economical Processes for organic intermediates
		GACL, Vadodara	National	30		Process development and standardization for an appropriate catalyst for the manufacturing process of Catechol and

						Hydroquinone and standardization / optimization of separation technique using synthetic mixture of various components – products & by-products formed in the Catechol – Hydroquinone process.

17. Inter-institutional collaborative projects and associated grants received

a) National collaboration **b) International collaboration**

	Activity	**Sponsaring agency**	**Funding**
Yadav G D			
1	Indo-US S and T Forum Centre : PROTECT along with DrTapan Rout of Tata Steel Jamshedpur	SUNY Buffalo, **USA** (Now with Texas A & M University)	
2	Indo-Canadian I.C. IMPACTS with University of British Columbia, University of Alberta and University of Toronto	University of Alberta, **Canada**	
3	Collaboration on Catalysis through student exchange	University of Waterloo, **Canada**	
4	Indo-Finish Project on GreenCO2 Indo-EU New Indigo Greenwater	University of Oulu, **Finland**	
5	Joint Organizers, Indo-German Conference On Catalysis, Rostock (DST and German Govt.)	Leibnitz Institute of Catalysis (LIKAT), Rostock, **Germany**	
6	Indo-European INDIGO project GreenWater	Universidad de Cantabria, **Spain**	

7	Student exchange, professor Ramani Narayan	Michigan State University	
Thorat B N			
1	Indo Brazil , No.INT/Brazil/P-01/2013 Engineering aspects of manufacturing of Granular Rebaudioside A from stevia.	Universidale de Sao Paulo, Brazil	28.77 lakhs
Gaikar V G			
1	Innovation Networking of TEQIP Institutes in Maharashtra (ICT, DBATU, VJTI, SPCE, SGGSET)	TEQIP, MHRD (2014-16)	150 lakhs
2	Advanced materials as CO2 removers: A computational study of CO2 sorption Thermodynamics and kinetics	Indo-European Joint Project-Department of Science and Technology (2009-12)	78 Lakhs
3	Bradford University	Co-crystallization under UKIRI	
Pandit A B			
1	Advanced oxidation processes for the degradation of organic pollutants in aqueous environment	Department of Science and Technology under India Australia Fund for Scientific and Techno-logical cooperation (2007-2010)	09 Lakhs
2	Advanced oxidation processes for the degradation of organic pollutants in aqueous environment	Department of Science and Technology under India Australia Fund for Scientific andTechno-logical cooperation (2007-2010)	09 Lakhs
	Joshi J B		
1	(a) Design and Optimization of Solar Thermal Technologies	Indian Institute of Technology, Bombay	
2	(a) Application of Three Phase Fluidization for Froth Flotation (b) Design of Solid-Liquid Fluidized Beds and Circulating	Indian Institute of Technology, Gandhinagar	

	Solid-Liquid Fluidized Beds (c) Design of Multiphase Reactors: Biomethanation		
3	(a) Thermal Hydraulics (b) Hydrogen production by thermochemical methods (c) Unit operations in nuclear energy	Homi Bhabha National Institute, Mumbai	
4	(a) Fluid Catalytic Cracking: Contacting of Particle and Droplet at High Temperature (b) Direct Numerical Simulation of Flow Past Spheres and of Solid-Liquid Fluidized Beds (c) Characterisation of Turbulent Dispersion in Multiphase Systems (d) Hydrodynamics and Mass Transfer Characteristics of Microfluidized Beds for Chromatographic Separations	University of New-Castle, Australia	
5	(a) Discrete Particle Modeling of Solid-Fluid Suspensions	Louisiana State University, USA	
Lali A M			
1	Transnational approaches to resolving biological bottlenecks in macroalgal biofuel production	• CSIR-Central Salt and Marine Chemical Research Institute, Bhavnagar, Gujarat	201.672
2	Engineering enzymes, bacteria and bioconversion processes for advanced biofuels from waste grain straw	• DBT-ICGEB Centre for Advanced Bioenergy Research, New Delhi • School of Biotechnology, Jawaharlal Nehru University, New Delhi • Department of Genetics, Madurai Kamaraj University	152.00

3	Integrated technologies for economically sustainable bio-based Energy	• DBT-ICGEB Centre for Advanced Bioenergy Research, New Delhi • DBT-IOC Centre for Advanced Bioenergy Research, Faridabad • The Energy and Resources Institute, New Delhi • National Institute of Interdisciplinary Science and Technology, Thiruvananthapuram	700.30
4	MacroalgalBiorefinery for CO_2 Sequestration and production of biofuel and valued added compounds	• CSIR-Central Salt and Marine Chemical Research Institute, Bhavnagar, Gujarat • Aquagri Processing Private Limited	85.00
Gogate P R			
1	University of Minho(Prof. Artur Cavaco-Paulo)	Intensification of enzymatic reaction using sonochemical reactors	5.29 Lacs
2	Universidade de São Paulo, Brazil (Dr. Reinaldo Giudici)	Intensification of biodiesel synthesis from sustainable raw materials using cavitational reactors	21.5 Lacs
3	NIT Warangal (Dr. Shirish Sonawane)	Improved synthesis of materials and applications in wastewater treatment	No funding, exchange of students under NIT-ICT MOU
4	AISSMS College of Engineering (Mr. Ashish Mohod)	Intensification of Chemical Processing Applications Using Cavitational Reactors	No funding, under UGC Networking Resource Centre activities

18. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received

Sr.No.	Projects	Total Grant	Sanction	Received grant
1	UGC-CAS	15,000,000	11,415,000	11,415,000
2	DST-FIST	7,25,00,000	3,73,00,000	3,73,00,000
3	UGC-NRC	10,00,00,000	9,00,00,000	9,00,00,000

19. Research facility / centre with

- **State recognition**
  a) Innovation Networking of TEQIP Institutes in Maharashtra

- **National recognition**
  a) UGC Networking Resource Centre in Chemical Engineering
  b) DAE-ICT Centre for Chemical Engineering Education and Research

- **International recognition**

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

Institute	Pubs 2010	Total Pubs 06-10	Rank	2011 Pubs	07-11 Pubs	Rank
India						
Mumbai (ICT)	**185**	**960**	**1**	**198**	**1025**	**1**
Bombay (IIT)	72	368	2	75	393	2
Kanpur (IIT)	72	356	3	80	378	3
Kharagpur (IIT)	68	301	4	59	305	4
Madras (IIT)	60	263	5	55	281	5
Anna	39	257	6	56	261	6
Bangalore (IISc)	42	204	7	51	225	7
Roorkee (IIT)	30	188	8	31	205	8
Delhi (IIT)	43	169	9	43	188	9
Guwahati (IIT)	34	100	12	46	138	10
USA						
Mass. Inst. Tech.	269	1470	1	341	1624	1
Minnesota	202	1014	2	211	1067	2
Georgia Tech	197	942	4	234	1061	3
Texas	175	985	3	171	986	4
Cal/Berkeley	146	812	5	177	899	5

Cal/Davis	160	808	6	165	874	6
Delaware	123	647	10	191	784	7
CANADA						
Alberta	193	861	1	222	980	1
UK						
Imperial College London	178	875	1	222	1009	1

20. Special research laboratories sponsored by / created by industry or corporate bodies

In 2009, DBT-ICT Centre for Energy Biosciences with Agilent Technologies has setup a state of art Mass Spectrometry Laboratory at ICT. The Agilent-Bruker Ion Trap, Agilent Triple Quadrupole and the Agilent Nano-spray Quadrupole TOF that constitute the holy trinity of hybrid mass spectrometers are available at the laboratory. Each of these instruments in conjunction with appropriate bioinformatics software, can be applied to assess ‘markers’ at concentrations as low as a few femtomoles. Of these, the Ion trap and Triple Quadrupole are functional at the screening and identification level, wherein complex broths can be effectively unravelled, while the high accuracy and mass range of the Quadrupole TOF allows, identification of low-abundance, novel extrolites. By applying a combination of these instruments, it is possible to perform high-throughput, large scale biomarker identification, screening and confirmation.

21. Publication

Name	Year	Papers	Monographs	Chapters in books	Edited books	Books with ISBN	Number listed in International database	Citation index	SNIP (avg)	SJR	Impact factor – range /average	h-index	patent
Bhagwat SS	2010-2011	4					5	456	0.7145	0.438	0.625-3.942	3	3
	2011-2012	7					6	264	0.63	0.4542	0.62-4.15	7	7
	2012-2013	11					5	407	0.711556	0.278125	0.628-2.493	11	9
	2013-2014	10					5	350	0.7255	0.346	0.628-1.685	9	
	2014-2015	9					9	45	1.43	1.368	2.108-3.368	5	
Gaikar VG	2010-2011	6					11	1740	4.3	0.733	1.231-3.091	23	
	2011-2012	9					19	1138	0.954571	0.940286	1.171-3675	21	8
	2012-2013	15					18	1751	1.005	1.099	0.569-4.321	5	7
	2013-2014	10					12	2183	1.109889	0.660333	2.037-3.84	26	11
	2014-2015	12					12	257			2.037-3.84	2	
Gogate PR	2010-2011	15		06			25	558	1.95	1.15	1.056-3.7199	42	
	2011-2012	14		7			35	2389	1.678167	1.155333	2.732-4.231	26	
	2012-2013	21					38	6404	1.550	1.206308	1.231-4.231	45	
	2013-2014	10					50	5005	1.492952	1.01281	0.394-4.321	40	
	2014-15	25					25	2445			0.394-4.321	44	

Lali AM	2010-2011	5					9	135	2.26	0.2436	0.37-4.194	5	6
	2011-2012	2					13	421	1.2085	1.0945	3.565-4.169	10	6
	2012-2013						9	778				5	36
	2013-2014	10					5	266	1.455	1.664	3.84-4.169	8	47
	2014-15	56					56	180			3.84-4.169	13	
Marathe KV	2010-2011	4					4	32	1.942	0.9025	0.63-3.199	3	
	2011-2012	18					2	54	1.699	1.095	2.169-4.31	2	
	2012-2013	1					2	147	0.08	0.071	1.171	0	
	2013-2014	10					7	94	0.48	0.398333	1.171-3.152	5	
	2014-2015	24					24	59			1.171-3.152	6	
Mathpati CS	2010-2011						4	92	2.323	0.85775	1.231-2.587	7	
	2011-2012	11					5	56	1.667	0.0	0.72	5	
	2012-2013						2	206					
	2013-2014	10					3	138	2.108	1.523	0.831-2.739	7	
	2014 - 2015	5					5	3	1.58	1.09	0.898 – 2.108	1	
Pandit AB	2010-2011	18		3			27	924	2.96	1.147	4.321-4.494	45	
	2011-2012	25		4			29	1153	1.5842	1.177652		31	15

	2012-2013	20					31	9084	1.690833	1.208905	2.0-4.5	45	6
	2013-2014	10					41	10840	1.48708	1.01972	1.173-4.321	56	15
	2014 - 2015	44					44	9062	1.48708	1.01972	1.173-4.321	51	
Patwardhan AV	2010-2011	12			1				1.36	0.94	0.789-4.529	2.0-2.3	
	2011-2012	4						253	1.5345	0.8935		9	
	2012-2013	3						339	0.461333	0.357	1.17-2.2		
	2013-2014	10						612	0.7026	0.7494	0.722-3.756	13	1
	2014 - 2015	3					3	0	0.7026	0.7494	0.93 – 0.16	5	
Patwardhan AW	2010-2011	5					12	125	1.28	1.02	0.952-2.337	20	
	2011-2012	7					12	457	1.123333	0.715	0.991-2.337	12	
	2012-2013	3					11	317	1.631333	0.991	0.925-2.348	32	
	2013-2014	10					11	784	0.73775	0.59625	0.991-2.384	16	
	2014-2015	9					9	4	0.73775	0.59625	0.889 – 2.752	21	
Rathod VK	2010-2011	08			1		7	142	2.01	1.01	1.714-4.321	6	1
	2011-2012	6					11	108	1.5018	0.8986	0.2-2.36	5	

	2012-2013						16	124	1.158	0.775	1.034-4.321	8	
	2013-2014	10					29	207	1.10664	0.72884	1.034-4.321	11	1
	2014 - 2015	42					42	130	1.10664	0.72884	0.889-4.402	13	
Thorat BN	2010-2011	27		2			22	141	4.2	0.206	0.511-3.091	7	2
	2011-2012	13		3			15	221	0.5515	0.327455	0.628-2.328	9	2
	2012-2013	9					12	184	0.522	0.522	2.084	2	4
	2013-2014	11					8	438	0.3394	0.2798	0.5-3.091	11	4
	2014-2015	64					64	176			0.5-3.091	13	
Vaidya PD	2010-2011	7					6	122	1.06	0.627	1.104-5.330	5	
	2011-2012	7					9	434	0.871333	0.640667	1.104-3.22	10	
	2012-2013	9					10	397	0.928875	1.083429	1.23-4.32	5	
	2013-2014	10					8	415	0.6899	0.5167	1.104-4.321	17	1
	2014-2015	61					61	376			1.104-4.321	18	
Yadav GD	2010-2011	48	3				16	763	1.689	2.589	2.618-5.787	7	56
	2011-2012	18	3				34	1079	2.76	1.9652	2.618-5.787	11	58
	2012-2013	261					42	615	1.421	1.137	0.592-6.921	11	
	2013-2014	295	3				42	1102	1.9898	1.592133	0.59-15.575	8	68

	2014-2015	120					120	1142			0.59-15.575	41	
Dalvi VH	2010-2011	3					-	-	-	-	-	-	-
	2012-2013						-	-	-	-	-	-	
	2013-2014	1					1	67	1.761	2.145	4.8-9.7	3	1
	2014-215	10					10	132			4.8-9.7	3	
Nemade PR	2010-2011	3						44					
	2012-2013							37					
	2013-2014	4					-	121	1.22	0.69	1.893-10.677	2	1
	2014-2015	2					2	41			1.893-10.677	2	
Joshi JB	2010-2011	17		1			28	8104	1.06	0.584	0.875-4.321	52	
	2011-2012	21					22	5461	1.276875	0.832929	2.184-4.231	26	
	2012-2013	13					35	2690	1.155	0.760	0.653-4.321	8	1
	2013-2014	10					34	1379	1.249455	0.874636	1.104-4.38	7	
	2014-2015	31					31	1491			1.104-4.38	47	
Jha N	2010-2011												
	2011-2012	11					152	92	0.7515	0.668	1.215-16.146	4	3
	2012-2013							126					
	2013-2014						4	140	1.154909	0.596	0.759636	10	1
	2014-2015	1					1	170			0.759636	10	

Singh SK	2010-2011												
	2011-2012	9		1					0.637	0.562	1.125-2.2		
	2012-2013												
Sontakke SM	2010-2011												
	2011-2012	4						13	1.3205	1.0355	0.99-4.03	1	
	2012-2013	1					1	23	1.905	1.585	4.321		
	2013-2014							28	-	-	-	3	
	2014-2015	0						22	-	-	-	3	
Jain RD	2010-2011							52					
	2011-2012							91					
	2012-2013							98					
	2013-2014	10						187	1.56	2.96	3.13	7	1
	2014-2015	6					6	153			3.13	10	
Pinjari DV	2013-2014	10					16	272	2.075	1.585	3.83-4.68	11	2
	2014-15	15					15	310	1.947	1.432	1.632-4.494	13	
Jogwar SS	2013-2014	9					3	93	0.9392	0.9698	1.805-2.493	5	
	2014-15	3					3	56	1.625	1.038	2.587-2.784	6	
Ghosh PK	2014-15	16					16	548	1.885	2.251	3.845.056	24	7
Laxmikantam M.	2014-15	18					18	29	0.761	0.913	0.814-4.089	2	

22. Details of patents and income generated:

Sr. No.	Patent Registered	Patent Title	Patent Number	Year
1	National	Combustion synthesized zirconia as material and catalyst	16/MUMU/2011	2011
2	National	Hydrogen production method by multi-step copper-chlorine thermochemical cycle	1973/MUM/2011	2011
3	National	Effect of operating parameters on the performance of electrochemical cell in copper- chlorine cycle	1974/MUM/2011	2011
4	National	Electrochemical cell used for the production of copper using Cu-Cl thermochemical cycle	1975/MUM/2011	2011
5	National	Thrombolytic enzyme and its preparation process	1551/MUM/2011	2011
6	National	Synthesis of Corrosion Inhibiting Nano Pigment Compraising Of Nano Container for Corrosion Inhibitive Coating	1539/MUM/2012.	2011
7	National	Combustion synthesized zirconia as material and catalyst	16/MUMU/2011	2011
8	National	Hydrogen production method by multi-step copper-chlorine thermochemical cycle	1973/MUM/2011	2011
9	National	Effect of operating parameters on the performance of electrochemical cell in copper- chlorine cycle	1974/MUM/2011	2011
10	National	Unsupported titania membrane and method for preparation thereof	1109/MUM/2012	2011
11	National	Thrombolytic enzyme and its preparation process	1551/MUM/2011	2011
12	National	Combustion synthesized zirconia as material and catalyst	IND/0016/MUMU/2011	2011
13	National	Hydrogen production method by multi-step copper-chlorine thermochemical cycle	IND/1973/MUM/2011	2011
14	National	Effect of operating parameters on the performance of electrochemical cell in copper- chlorine cycle	IND/1974/MUM/2011	2011
15	National	Electrochemical cell used for the production of copper using Cu-Cl thermochemical cycle	IND/1975/MUM/2011	2011
16	International	Process for production of propanediol	PCT/IN2010/000406	2011
17	International	Bimetallic manganes oxide octahedral molecular sieve catalysts (M1-M2-OMS-2) for hydrogenolysis	PCT/IN2010/000406	2011
18	International	Process for the production of acrolein and reusable catalyst thereof.	PCT/IN2010/000755	2011
19	International	Method for conversion of sucrose to value-added chemicals	PCT/IN2010/000834	2011

20	International	Process for production of furfural from xylose by using heterogeneous catalyst	PCT/IN2010/000835	2011
21	International	Production of 5-hydroxymethylfurfural.	PCT/IN2011/000048	2011
22	International	Method for catalytic dehydration of glycerol	PCT/IN2011/000061	2011
23	International	Catalyst composition (ICaT-3) comprising of chlorosulfonic acid treated anatase titania	PCT/IN2011/000091	2011
24	International	Catalyst composition (ICaT-2) comprising of rare earth metal	PCT/IN2011/000102	2011
25	International	Solar Conduction Dryer with controlled Radiation	PCT/IN2012/000843 740/MUM/2011	2011
26	National	Unsupported titania membrane and method for preparation thereof	1109/MUM/2012	2012
27	National	Process for production of 2-oxazolidinones using efficient and reusable heterogeneous catalyst or biocatalyst	1112/MUM/2012	2012
28	National	Process for production of [4-(alkyl/aryl)-oxy-1,3-dioxolane-2-one] using heterogeneous catalyst	1111/MUM/2012	2012
29	National	Combustion synthesis of nanocrystalline alkali and alkaline earth metal oxide or mixture thereof and its applications	628/MUM/2012	2012
30	National	Method for production of membrane	627/MUM/2012	2012
31	National	Electrochemical cell used for the production of copper using Cu-Cl thermochemical cycle	1975/MUM/2011	2012
32	National	Process for production of 2-oxazolidinones using efficient and reusable heterogeneous catalyst or biocatalyst	1112/MUM/2012	2012
33	National	Process for production of [4-(alkyl/aryl)-oxy-1,3-dioxolane-2-one] using heterogeneous catalyst	1111/MUM/2012	2012
34	National	Combustion synthesis of nanocrystalline alkali and alkaline earth metal oxide or mixture thereof and its applications	628/MUM/2012	2012
35	National	Method for production of membrane	627/MUM/2012	2012
36	National	Unsupported titania membrane and method for preparation thereof	1109/MUM/2012	2012
37	National	Process for production of 2-oxazolidinones using efficient and reusable heterogeneous catalyst or biocatalyst	1112/MUM/2012	2012
38	National	Process for production of [4-(alkyl/aryl)-oxy-1,3-dioxolane-2-one] using heterogeneous catalyst	1111/MUM/2012	2012

39	National	Combustion synthesis of nanocrystalline alkali and alkaline earth metal oxide or mixture thereof and its applications	628/MUM/2012	2012
40	National	Method for production of membrane	627/MUM/2012	2012
41	National	Method for production of membrane	IND/0627/MUM/2012	2012
42	National	Combustion synthesis of nanocrystalline alkali and alkaline earth metal oxide or mixture thereof and its applications	IND/0628/MUM/2012	2012
43	National	Unsupported titania membrane and method for preparation thereof	IND/1109/MUM/2012	2012
44	National	Process for production of [4-(alkyl/aryl)-oxy-1,3-dioxolane-2-one] using heterogeneous catalyst	IND/1111/MUM/2012	2012
45	National	Process for production of 2-oxazolidinones using efficient and reusable heterogeneous catalyst or biocatalyst	IND/1112/MUM/2012	2012
46	National	Process for preparing 2,5-diformylfuran from 5-hydroxymethylfurfural utilizing a calcined magnesium mesoporous heterogeneous ICaT-4 catalyst	PCT Int. Appl. (2012), WO 2012073251 A1 20120607	2012
47	International	Process for converting fructose into 5-(hydroxymethyl)furfural using a mesoporous silica based catalyst impregnated with rare earth metals	PCT Int. Appl. (2012), WO 2012038969 A 1 20120329	2012
48	International	Catalyst composition (ICaT-2) comprising of rare earth metal	PCT Int. Appl. (2012), WO 2012029071 A2 20120308.	2012
49	International	Process for the production of acrolein from glycerol and reusable catalyst having specific surface area	PCT Int. Appl. (2012), WO 2012035540 A1 20120322.	2012
50	International	Catalyst composition comprising of transition metals supported on a acidified anatase titania	PCT Int. Appl. (2012), WO 2012035542 A1 20120322	2012
51	International	Method for converting sucrose to 5-(hydroxymethyl)furfural using a lanthanum containing porous silica catalyst	PCT Int. Appl. (2012), WO 2012038967 A1 20120329	2012
52	International	Process for production of furfural from xylose using a heterogeneous mesoporous silica catalyst comprising rare earth metals	PCT Int. Appl. (2012), WO 2012038968 A1 20120329	2012
53	International	An Absorption Refrigeration System and a Process for Refrigeration utilizing the same	W0/2010/038236	2013

54	National	Improved Thermodynamic Cycle	IN2011/000169	2013
55	National	Ultrasound Assisted Process for Synthesis of Chalcone	1504/Mum/2011	2013
56	National	Multistage Drying Process	1301/MUM2013	2013
57	International	Hydrogen production method by multi-step copper-chlorine thermochemical cycle	US 8968697	2014
58	National	Environmentally benign heterogeneous catalyst for Fenton process	1120/MUM/2014	2014
59	National	Bimetallic heterogeneous catalyst for use in eco-friendly solvents	2511/MUM/2014	2014
60	National	Cavitation Induced Nanoemulsion	215/MUM/2015	2015
61	National	System for enhanced anticorrosive protection by using n-Octyl phosphonic acid based functionalized Zinc phosphate, Indian Patent Application No.	1834/MUM/2015	2015
62	National	Effective Check valve for water disinfection	4719/MUM/2015	2015
64	National	Haemostatic BioSponge	RGCST	2015
65	National	Solar Dryer with control Radiation	RGCST	2015
66	National	Turmeric Processing	Bill Gates	2015
67	International	Solar Dryer with control Radiation	Bill Gates	2015
68	National	Suspended cultivation of macroalgae in photobioreactor	13th April 2016	2015
69	National	Solar Assisted Method for Preparation of Chalcone Compound	25462/MUM/2016	2015
70	National	Microfluidic device for the development of in-vitro co-cultures of mammalian tissues		2015
71	National	Microfluidic mammalian co-culture device		2015
72	International	A process for integrated production of ethanol and seaweed sap from *Kappaphycusalvarezii*	U. S. 8,969,056	2016

73	National	Process for detoxification and improvement of seed meals, cakes and other products		2016
74	National	Process for purification and refining of glycerol		2016
75	International	Method for production of fermentable sugars form biomass	Philippiness Patent Application no. 1-2011-502465/31st March 2016-09-30 Australian Patent Application no. AU2010252547/3rd December 2015	2016
76	International	Enzymatic process for fat and oil hydrolysis	Singapore Patent Application No. 11201404463P/14th December 2015	2016
77		Photosynthetic microorganisms mediated rapid wastewater treatment using continuous photobioreactor		2016
78		Continuous process for production of Vitamin B12		2016
79	International	Fractionation of Biomass	Canadian Patent Application no. CA 2800996/ 4th May 2016 Japanese Patent Application no. 2013-513816/31st July 2015	2016
80		A novel glucose tolerant glucosidase enzyme (Mbgl)		2016
81		Enzymatic hydrolysis process for production of fermentable sugars		2016
82		Process for production of pure glucose from cellulose	2782/MUM/22nd July 2015	2015

83		A catalytic liquefaction (CTL) method for production of bio-crude oil using ionic liquid catalyst and preparation thereof		2016
84		Process for improved seaweed biomass conversion for fuel intermediates, agricultural nutrients and fresh water	U. S. 9,452,993	2016
85		Desalination unit for the production of potable water from subsoil brine	U. S.	2016
86		Method of recycling of by-products for the production of soda ash and ammonium sulphate	U. S.	2016
87	International	Production of high purity salt with reduced levels of impurities,	U. S. 9,090,478	2016
88	International	Selective extraction of potassium chloride from schoenite end liquor employing tartaric acid as safe, benign and recyclable extractant	U. S. 9,540,248	2015
89	National	Method of manufacturing concentrated silver nanopowder		2015
90	National	Indian Trademark entitled 'NANOTARG'		2015
91	National	Methods for preparation of water-soluble and water-insoluble derivatives of saccharides and alkali, alkaline earth, transition and nobel metals		2015
92	National	Kit for pyrogen detection and depyrogenati-on of water		2015
93	National	A structured catalyst for steam reforming of methane for production of syn gas	Department of Fertilizers, Ministry of Chemicals & Fertilizers, Government of India	2015

94	National	Polymeric Nanoparticles of Curcumin for Improved Delivery		2015
95		System for enhanced anticorrosive protection by using n-Octyl phosphonic acid based functionalized Zinc phosphate	1834/MUM/2015	2015
96	International	Manually operated continuous flow type drinking water disinfector using concentrated solar radiation	U. S. 9156713	2015
97	International	Solar Conduction Dryeer with Controlled Radiation	PCT/IN2012/000843	2013
98	International	CassavaTech and HaldiTech	PCT/IN2014/000689	2014
99	National	Solar Conduction Dryer	740/MUM/2011	2013
100	National	System for enhanced anticorrosive protection by using n-Octyl phosphonic acid based functionalized Zinc phosphate	4719/MUM/2015	2015

Revenue Generated Through Licensed Patents and Technologies

(Professor A. M. Lali)

Sr. No.	Year	Title of the Project	Sanctioned Amt.	Funding Agency/ Industry
1	2014-2015	Pilot Scale Translational Facility for Value Added Chemicals from Biomass	Rs.50.00 Lakhs	BIPP, BIRAC, India
2.	2015-2016	Purification of Glycerin	Rs.100.00 Lakhs Royalty for 10 yrs.	InNow LLC, USA
3.	2015-2016	Development of improved animal feed ingredient from seed meals	Rs.100.00 Lakhs Royalty for 10 yrs.	Godrej Agrovet, India
4.	2017-2018	DBT-ICT 2G-Ethanol Technology	Rs.162.50 Lakhs	HPCL, India

5.	2017-2018	DBT-ICT 2G-Ethanol Technology	Rs.500.00 Lakhs	L & T, India
6.	2015-2018	Soya Biorefinery	Rs.50.00 Lakhs	Kanoria Chemicals & Industries Ltd. India

23. Areas of consultancy and income generated:

Financial year 2017-18

SR. NO	Name Of The Consultant	Name Of Company	Total Consultancy
1	Prof. S.S Bhagawat	M/s. Jayant Agro Organics	200000.00
		M/s. Galaxy Surfactants Ltd.	950400.00
		M/s. Galaxy Surfactants Ltd.	150000.00
		M/s. Marico Ltd.	350000.00
		M/s K.V.Fire	300000.00
		M/s.Balmer Lawrie	300000.00
		M/s. Aditya Birla Science & Tech. Co. Ltd.	450000.00
		M/s. Sumwin Solution Malayasia SDN BHD	300000.00
2	Dr. Vishwanath H. Dalvi	M/s.Sheney Enterprises Pvt.Ltd.	15000.00
3	Dr.P.R. Gogate	M/s Privi Orhanics Ltd.	300000.00
		M/s. Y. Cube Tech. Pvt. Ltd.	45000.00
		M/s. Mangalam Organics Ltd.	225000.00
		M/s. Navin Flurine International Ltd	120000.00
		M/s. Autus International	100000.00
		M/s. Godavari Drugs Ltd.	90000.00
		M/s. Zirconium Chemical Pvt. Ltd.	75000.00
		M/s. Asetic Life Sciecne Ltd.	180000.00
		M/s. Innovassynth Technologies (India)Ltd.	90000.00
		M/s. Chemco Innovative Chemie Pvt.Ltd.	90000.00
		M/s. Mangalam Organics Ltd.	225000.00
		M/s.Chemference(DMCC)	45000.00
		M/s. Green Galaxy Global Envirnmental	$9000
4	Dr. P.K. Ghosh	M/s. Rubamin Ltd	100000.00
5	Prof. S.S. Jagwar	M/s. Siemens Ltd	140000.00
6	Dr. Ratnesh Jain	M/s.Wockhardt Ltd	30000.00
		M/s. Galaxo Smitkline	63600.00
		M/s. Anya Biopharma	582720.00

		M/s. Famy Care Ltd.	60000.00
		M/s. Advy Chemicals Pvt. Ltd.	300000.00
		M/s. Hetro Biopharma	100000.00
7	Prof Lakshami kantam	M/s. Marvel Drugs Pvt. Ltd	200000.00
8	Prof A.M. Lali	M/s Godrej Agrovet Ltd	1000000.00
9	Dr. C.S. Mathpati	M/s. Jayant Agro -Organics Ltd.	500000.00
		M/s. UPL Ltd.	333333.00
		M/s. Sun Pharma Technical Trading Academy	150000.00
10	Prof K.V. Marathe	M/s. PACE (India)	500000.00
		M/s. PACE (India)	60000.00
11	Dr. P.R. Nemade	M/s. Mrib Chemicals	150000.00
12	Dr. D.V.Pinjari	M/s. Department Of Revenue Intelligience	85000.00
		M/s. Kirloskar Integrated Tech Pvt Ltd.	750000.00
13	Prof. A.B. Pandit	M/s. Khaitan And Co	90000.00
		M/s. GMM Pfaudler	900000.00
		M/s. B.P.C.L.	500000.00
		M/s. Narendra Karnavat	300000.00
		M/s. SRF Ltd.	200000.00
14	Prof. A.V.Patwardhan	M/s National Peroxide Ltd.	500000.00
		M/s. Siemens Ltd	84000.00
		M/s. Bajaj Allianz General Insurance Company Ltd.	150000.00
15	Prof A.W.Patwardhan	M/s. Siemens Ltd	84000.00
		M/s. Nocil Ltd	1200000.00
		M/s. GMM Pfaudler Ltd	900000.00
		M/s. SRF Ltd.	200000.00
16	Dr. V.K.Rathod	M/s. Nautraplus India Ltd.	150000.00
		M/s. Harman Finochem Ltd.	225000.00
		M/s. Navin Fluorine Internatinal Ltd.	120000.00
		M/s. Marvel Drugs Pvt.Ltd.	200000.00
		M/s. Crystal Surfactants & Chemical	90000.00

		M/s. Godrej Agrovate Ltd	100000.00
17	Dr. S.M.Sontakke	M/s. Narendra Karnavat	300000.00
18	Prof. B.N.Thorat	M/s. Marvel Drugs Pvt Ltd	150000.00
		M/s. Kansai Nerolac	450000.00
		M/s. Aquapharma Chemicals Pvt. Ltd.	250000.00
19	Dr. P.D.Vaidya	M/s. Aquapharma Chemicals Pvt. Ltd.	250000.00
		M/s. Indian Oil Corparation Ltd	600000.00
		M/s. Indian Oil Corparation Ltd	300000.00
20	Prof. G.D. Yadav	M/s. ONGC Energy Centre (Altermative to Platimum)	120000.00
		M/s. ONGC Energy Centre(Closed loop)	160000.00
		M/s. Malladi Drugs & Pharmaceutical Ltd.	1000000.00
		M/s. Malladi Drugs & Pharmaceutical Ltd.	500000.00
		M/s. Molten Salt	1000000.00

Financial year 2016-17

SR.	Name Of Consultant	Name Of Company	Total
NO			Consultancy
1	DR. S.S. BHAGWAT	M/S. UNICORN LABORATORIES LTD.	450000.00
		M/S MARICO,LTD.	350000
		M/S BALMER LAWRIES & CO,LTD.	225000
		M/S GALAXY SURFACTANTS LTD.	950400
		M/S MARICO LTD.	350000
2	DR. V.H. DALVI	M/S. BHAVI PLAST PVT. LTD.	75000
		M/S. ADYA ENTERSIES	150000
3	DR. P. R. GOGATE	M/S. EXCEL INDUSTRIES . LTD.	175000
		M/S. INNOVASSYNTH TECHNOLOGIES INDIA LTD.	90000
		M/S. ANSHUL SPECIALTY MOLECULES LTD.	75000
		M/S. GHARDA CHEMICAL LTD.	90000
		M/S. DEEPAK NITRITE LTD.	90000
		M/S. HIKAL LTD.	120000
		M/S. DEEPAK NITRITE LTD.	90000
		M/S. ANEK PRAYOG PVT LTD.	90000
		M/S. Y CUBE TECHNOLOGIES PVT. LTD.	60000
		M/S. RPG LIFE SCIENCES LTD.	120000
		M/S. HOSPIRA HEALTHCARE INDIA PVT LTD.	120000
		M/S. Y CUBE TECHNOLOGIES PVT. LTD.	48000
		M/S. DOMBIVLI COMMON EFFLUENT TREATMENT PLANT	150000
		M/S. Y CUBE TECHNOLOGIES PVT. LTD.	45000
		M/S. DEEPAK NITRITE LTD.	30000
		M/S. DEEPAK NITRITE LTD.	120000
		M/S. ESKAY DYESSTUFF ORGANIC CHEMICAL PVT. LTD.	210000
		M/S. MARGALAM ORGANICS LTD.	225000
4	DR.P.K.GHOSH	M/S. RUBAMIN LIMITED.	100000
		M/S. RUBAMIN LIMITED.	100000
		M/S. ATUL LIMITED.	100000
		M/S. RUBAMIN LIMITED.	100000
5	PROF. V. G. GAIKAR	M/S. UNILEVER INDUSTRIES LTD.	1200000
6	PROF. S.S. JOGWAR	M/S. LUBRIZOL INDIA PVT. LTD.	150000

		M/S. SIEMENS LTD.	210000
7	DR. RATNESH JAIN	M/S. FMC INDIA PVT. LTD.	72000
		M/S. GLAXO SMITHKLINE PHARMACEUTICAL LTD.	75000
		M/S. GLAXO SMITHKLINE PHARMACEUTICAL LTD.	63600
		M/S. GLAXO SMITHKLINE PHARMACEUTICAL LTD.	58800
8	DR. LAXMI KANTAM	M/S. ETERNIS FINE CHEMICAL LTD.	600000
		M/S. AARTI DRUGS LTD.	600000
		M/S. ETERNIS FINE CHEMICAL LTD.	150000
		M/S. ETERNIS FINE CHEMICAL LTD.	150000
		M/S. ETERNIS FINE CHEMICAL LTD.	150000
9	PROF. A. M. LALI	M/S. GODREJ AGROVET LTD.	1000000
10	DR. C. S. MATHPATI	M/S. BHAVI PLAST PVT. LTD.	75000
		M/S. U.P.L. LTD.	500000
11	DR. P. R. NEMADE	M/S. GALAXY SURFACTANTS LTD.	150000
12	PROF. A. B. PANDIT	M/S. SRF LTD.	900000
		M/S. ENCORE NATURAL POLYMERS PVT.LTD.	1800000
		M/S. IDEAL CHEMI PLAST PVT. LTD.	102000
		M/S. NARENDRA KARNAVAT	500000
		M/S. DR. AYKAN TEXTILES PVT. LTD.	75000
		M/S. L & T TECH	600000
13	PROF. A. W. PATWARDHAN	M/S. PRAJ INDUSTRIES LTD.	300000
		M/S. NOCIL LTD.	1200000
		M/S. LUBRIZOL INDIA PVT. LTD.	225000
		M/S. SIEMENS LTD.	84000
14	DR. DEEPAK PINJARI	M/S. COCA COLA R & D	35000
		M/S. COCA-COLA LTD.	300000
		M/S. KARGWAL CONSTRUCTIONS PVT. LTD.	80000
		M/S. AARTI DRUGS LTD.	300000
		M/S. NIRBHAY RASAYAN PVT. LTD.	150000
		M/S. OMEGA COLOURS PVT. LTD.	150000
		M/S. SHUBASHRI CHEMICALS PVT. LTD.	30000

		M/S. KARGWAL CONSTRUCTIONS PVT. LTD.	30000
		M/S. SETCO AUTOMIC, VADODARA, GUJRAT	93000
15	PROF. A. V. PATWARDHAN	M/S. LUBRIZOL INDIA PVT. LTD.	150000
		M/S. NATIONAL PEROXIDE LTD.	300000
		M/S. SUDARSHAN CHEMICAL INDUSTRIES LTD.	45000
		M/S. HINDUSTHAN CHEMICALS COMPANY, SURAT	30000
		M/S. ATUL LTD.	250000
		M/S. SEIMENS LTD.	84000
16	DR. V. K. RATHOD	M/S. INNOVATIVE ECO-CARE PVT. LTD.	252000
		M/S. THREE M PAPER MANUFACTURING CO PVT.. LTD.	250000
		M/S. NICHEM SOLUTIONS	51000
		M/S. KONARK HERBALS AND HEALTH CARE	600000
		M/S. ADITYA ENVIRONMENTAL SERVICES PVT. LTD.	225000
		M/S. ARCH PHARMALABS LTD.	150000
		M/S. PRASOL CHEMICALS LTD.	173913
		M/S. NATROPLUS INDIA LTD.	150000
		M/S. VETPHARMA LTD.	150000
		M/S. NATROPLUS INDIA LTD.	150000
17	DR. S. M. SONTAKKE	M/S. NARENDRA KARNAVAT	500000
		M/S. GULBRANDSEN CHEMICALS PVT. LTD.	500000
		M/S. DR. AYKAN TEXTILES PVT. LTD.	20000
		M/S. PROLIFIC CHEMICALS PVT. LTD.	75000
		M/S. NARENDRA KARNAVAT	150000
		M/S. MACRO BARS AND WIRES (I) PVT. LTD.	150000
		M/S. BILLS GVS PHARMA LTD.	150000
18	PROF. B. N. THORAT	M/S. J. S. INDUSTRIES LTD.	150000
		M/S. RPG LIFE SCIENCES LTD.	100000
		M/S. PIDILITE INDUSTRIES LTD.	200000
		M/S. EXCEL INDUSTRIES LTD.	225000
		M/S. GULBRANDSEN CHEMICALS PVT. LTD.	500000
		M/S. AQUAPHARMA CHEMICALS PVT. LTD.	250000
		M/S. PULERA CHEMICALS INDIA PVT. LTD.	50000
		M/S. SPECTROCHEM PVT. LTD.	50000
		M/S. KHANNA & KHANNA LTD.	50000
		M/S. MARVEL DRUGS PVT. LTD.	150000

19	DR. P. D. VAIDYA	M/S. ATUL LTD.	150000
		M/S. INDIAN OIL CORPORATION LTD.	300000
		M/S. EXCEL INDUSTRIES LTD.	225000
		M/S. AQUAPHARMA CHEMICALS PVT. LTD.	500000
20	PROF. G. D. YADAV	M/S. DELTA FINOCHEM PVT. LTD.	900000
		M/S. RESONANCE SPECIALITIES LTD.	600000
		M/S. HEUBACH COLOUR PVT. LTD.	1500000
		M/S. ONGC ENERGY CENTRE	100000
		M/S. ONGC ENERGY CENTRE	120000
		M/S. ONGC ENERGY CENTRE	160000

Financial year 2015-16

SR.	NAME OF CONSULTANT	NAME OF THE COMPANY	TOTAL
6	PROF. S.S.BHAGWAT	M/S MARICO LIMITED	2,88,000.00
		M/S. GALAXY SURFACTANTS LTD.	2,88,000.00
		M/S. Hindustan Unilever LTD.	10,000
		M/S. Blmers Lawries co. LTD.	225000.00
		M/S. GALAXY SURFACTANTS LTD.	8,64,000.00
		M/s K.V.Fire Chemicle (I) pvt.ltd.	3,00,000.00
		M/S DCM Shriram	3,00,000.00
		M/s Jayant Agro-organics	9,00,000.00
11	DR. P. R. GOGATE	M/S. ASTEC LIFESCIENCES LIMITED.	60000.00
		M/S. LUPIN LIMITED.	90000.00
		M/S. HIKAL LIMITED.	90000.00
		M/S. DEEPAK NITRITE LIMITED.	60000.00
		M/S. GLENMARK PHARMACEUTICALS LTD.	150000.00
		M/S Seya Indistrial Ltd.	60,000.00
		M/S Hikal Ltd.	60,000.00
		M/S Excel Indistrial Ltd.	1,75,000.00
		M/S. DEEPAK NITRITE LIMITED.	60,000.00
		M/S Indofial Indistrial Ltd.	90,000.00
		M/S Workhardt Ltd.	4,50,000.00
		M/S Workhardt Ltd.	2,00,000
		M/S Hikal Ltd.	90,000.00
		M/S Workhardt Ltd.	2,90,250.00
		M/s Gharda Chemicals ltd	90,000.00
		M/s Gharda Chemicals ltd	90,000.00
		M/s Ecosphere Technology	10,71,680.00

		M/S. ASTEC LIFESCIENCES LIMITED.	90,000.00
		M/S Workhardt Ltd.	1,29,000.00
		M/s Suprem Petrochem ltd	90,000.00
12	DR. PUSHPITO GHOSH	M/S. RUBAMIN LIMITED.	100000.00
		M/S. ATUL LIMITED.	100000.00
		M/S. RUBAMIN LIMITED.	1,00,000.00
		M/S. RUBAMIN LIMITED.	1,00,000.00
		M/S. ATUL LIMITED.	12,00,000.00
13	PROF.V.G.GAIKAR	M/S. UNILEVER INDUSTRIES (P) LTD.	300000.00
		M/S. UNILEVER INDUSTRIES (P) LTD.	12,00,000.00
		M/s Bharat Oman Refineries	90,000.00
14	Mr. O.P. Goyal	M/s Bharat Oman Refineries	90,000.00
15	DR. RATNESH JAIN	M/S. INVIETUS ENTERPRISES LTD.	100000.00
		M/S. GALAXO SMITKLINE.	21000.00
		M/S. GALAXO SMITKLINE.	33,300.00
		M/S. INVIETUS ENTERPRISES LTD.	44,300.00
		M/S. GALAXO SMITKLINE.	18,900.00
17	Dr.Sujit Jogwar	M/S DCM Shriram	3,00,000.00
		M/s Asian Paints Ltd	1,66,667.00
		M/s Bharat Oman Refineries	1,80,000.00
21	PROF. A.M. LALI	M/S. INDIA GLYCOLS LTD.	3,00,000.00
24	DR. C.S.MATHPATI	M/S. UNITED PHOSPHORUS LTD.	500000.00
		M/S. ADYA ENTERPRISES.	87336.00
		M/s Mass Transfer Products Industries	4,32,000.00
		M/s Rhitan & CO	50,000.00
		M/s UPL Ltd	5,00,000.00
		M/s Dardi Salt Pvt ltd	50,000.00
		M/s Transfer Product Industries	38,668.00
26	Dr.P.R.Nemade	M/s Aether Industries Ltd	21,930.00
		M/s Chemtron Science Labratories Pvt Ltd	51,000.00
27	PROF.A.W.PATWARDHAN	M/S. TECH MAHINDRA LIMITED.	225000.00
		M/S. NOCIL LIMITED.	1200000.00
		M/s Asion Paints	1,66,667.00
		M/s Bharat Oman Refineries	1,80,000.00

29	Prof.A.B.Pandit	M/s Encore Natural Polymer Pvt ltd	18,00,000.00
		Asian Paints	3,00,000
		M/s Hindustan Unilever Ltd	90,000.00
		M/s Atul Limited	7,50,000.00
30	Dr.Dipak Pinjare	M/s Directorate OF Revenue Intelligence	51,000.00
		M/s Swagat Polymers	1,80,000.00
		M/s Elkay Chemicle PVT.LTD	42,000.00
		M/s Arvind Cootsyn (India) Ltd	30,000.00
		M/s Computer Engineers	30,000.00
		M/s Zero D Industries	30,000.00
		M/s Divakar Techno Specalities	40,000.00
		M/s Tata Chemicle Pvt ltd	40,000.00
		M/s Simplex Infrastructure Ltd	30,000.00
		M/s Jai Ambe Developers	50,000.00
		M/s P &P Product	53,000.00
		M/s Prathmik Shikshan Sanchalanalay	71,000.00
		M/s The Education Deprtment	40,500.00
		M/s pyrocraft System LTD	50,000.00
		M/S GITE Technology India Pvt.Ltd	50,000.00
		M/s Muraspec Distrubution India Pvt.ltd	2,00,417.00
		M/s Shree Ganesh Entrprise	30,000.00
31	Prof. A.V.Patwardhn	M/s Asian Paints Ltd	1,66,667.00
		M/s Bhart Oman Refineries	2,70,000.00
32	DR. V. K. RATHOD	M/S. AARTI DRUGS LTD.	65000.00
		M/S. AARTI DRUGS LTD.	65000.00
		M/S. DU ORGANICS PVT. LTD.	75000.00
		M/S. CROP CARE FEDERATION OF INDIA	51000.00
		M/s Jubilant Life Science ltd	75,000.00
		M/s Dv Organics Pvt LTD	75,000.00
		M/s Megafine Pharma ltd	2,00,000.00
		M/s IG Petro chemicles	2,00,000.00
		M/s Godrej Agrovet Ltd	95,000.00
		M/s IPCA Labaratiories ltd	3,00,000.00
		M/s Additya Envitromentel Pvt LTD	3,00,000.00
		M/S crop care fedration India	51,000.00
		M/s Juubilant Ltd	75,000.00
		M/s Vinali Organics Ltd	1,50,000.00
36	Dr.Sharad Sontakke	M/s Maharashtra Pollution Board	3,00,000.00

41	PROF. B. N. THORAT	M/S. GHCL LIMITED.	750000.00
		M/S. JUBLIANT LIFE SCIENCES LTD.	700000.00
		M/S. HARMAN FINOCHEM LIMITED.	150000.00
		M/S. PT. SOUTH PACIFIC VISCOSE	300000.00
		M/s Azista Indu.Ltd	2,50,000.00
		M/s Azista Indu.Ltd	56,250.00
		M/s Azista Indu.Ltd	56,249.00
44	Prof .P.D.Vaidya	M/s Asvik Pharama & Chemicle Ltd	40,000.00
		M/s Reliance Industries Ltd	4,50,000.00
		M/s Indian Oil Corporation	12,00,000.00
45	PROF. G. D. YADAV	M/S. ONGC ENERGY CENTRE.	80000.00
		M/S. ONGC ENERGY CENTRE	60000.00
		M/S. ONGC ENERGY CENTRE	3,00,000.00
		M/S. ONGC ENERGY CENTRE	4,80,000.00
		M/S. ONGC ENERGY CENTRE	1,80,000.00
		M/s U.K. Aromatics &Chemicles	15,00,000.00

24. Faculty selected nationally / internationally to visit other laboratories / institutions industries in India and abroad:

Sr. No.	Faculty	Place of Visit	Duration	Purpose
	Dr. P.R. Gogate	USA	May 2012 (2 weeks)	Industrial consultancy with M/s Ecosphere Tech., Florida, USA
		USA	November 2012 (1 week)	Invited lecture at AOT-18 conference in Jacksonville, Florida, USA
		Northern Ireland	December 2012 (1 week)	Invited lecture at DST-RSC workshop on Process Intensification
		Hungary	April-May 2013 (3 weeks)	Indo-Hungary Educational Exchange Program of UGC, India and HSB, Hungary
		USA	November 2013 (1 Week)	Invited lecture at AOT-19 conference in San Diego, USA and visit to Ecosphere Technologies Inc. Florida
		Belgium	November 2013 (1	Invited lecture at KU Leuven

			Week)	and Workshop on Industrial applications of ultrasound based reactors
		Japan	March 2014 (1 week)	79th Annual meeting of SCEJ for receiving the award and presenting invited lecture
		Australia	October 2014 (1 week)	Invited lecture at CHEMECA, Perth, Australia
		Hungary, Spain	May-June 2015 (3 weeks)	Collaboration with University of West Hungary, Hungary and presenting two papers at EMChIE, Tarragona, Spain
		Malaysia	July 2015	Invited lecture at AOSS-2, Kuala Lumpur, Malaysia
		AISSMS COE, Pune	January 2015	Hydrodynamic Cavitation for Process Intensification: Opportunities and Limitations" Invited lecture at National Seminar on 'Intensification of Chemical Processing using Novel Reactors' organized by AISSMS COE
		Hungary, Spain	May-June 2015 (3 weeks)	Collaboration with University of West Hungary, Hungary and presenting two papers at EMChIE, Tarragona, Spain
		Malaysia	July 2015	Invited lecture at AOSS-2, Kuala Lumpur, Malaysia
		D J Sanghavi College of Engineering, Mumbai,	September 2015	Hybrid methods based on Hydrodynamic cavitation for Wastewater treatment", Invited lecture at Clean India seminar organized by D J Sanghavi College of Engineering
		Bogazici University, Istanbul, Turkey	October 2015	INSA-TUBA Exchange of Scientists Program at Bogazici University, Istanbul, Turkey
		Malaysia	December 2015	Examiner for PhD thesis examination, University of Nottingham, Malaysia Campus

		KK Wagh College of Engineering, Nashik	February 2016	Invited lecture at Chemical Engineering Department, KK Wagh College of Engineering
		Bogazici University, Istanbul, Turkey	June 2016	Keynote Lecture at ESS 15 held at Bogazici University, Istanbul
		University of Minho, Portugal	November 2016	Collaboration with University of Minho, Portugal and invited lecture at University of Porto, Portugal
		AISSMS College of Engineering,Pune	February 2017	Invited lecture at National workshop on Advances in Chemical Reactor Design, AISSMS College of Engineering
		Tarapur MIDC	June 2017	Invited lecture at Seminar on Solution based awareness on air and water quality for MIDC, Tarapur MIDC
2	Prof. S. S. Bhagwat	Malaysia	3 days	**The 7th Asian Conference on Colloid & Interface Science, Kuala Lumpur 2017**
3	P D Vaidya	University of Liverpool	01.01.2016 to 0.1.06.2016	India Fellowship Awardee 2015
4	Prof. V.G. Gaikar	Lonere	November, 2012	Training Program, Research Methodology
		UK	November, 2012	Reading University, Unviersity of Edenburogh
		France	November, 2012	Paris Institute of Technology
		Pune	Dec 2012	Key note lecture Faculty Development Program at MIT Academy of Engineering
		Mumbai	December 2012	Invited Lecture, Chemference 2012, Departments of Chemical Engineering
		Lonere	30th November 2012	Dr. Babasaheb Ambedkar Technololgical University

		Pune,	2nd December 2012	Maharashtra Academy Engineering College,
		Germany	February, 2013	Max Palnale Institute, Leipzis University
		Raipur,	April 5, 2013	Advances in Chemical engineering'
		UK	November, 2013	Bradford University
		Kalpakkam	March,2014	Indira Gandhi Center for Atomic Research
		New Delhi	March 2014	Guru Gobind Singh Indraprastha University
			October 2014	SVNIT
		Amravati	May 2014	Amravati University
			April 2015	Dr. Babasaheb Ambedkar Technological University
	Prof. A.B. Pandit	Santa Barbara, USA	January 13-May 2013	Excahnge Visitor, Department of Chemical Engineering, University of California,
		University of California, Santa Barbara, USA	Jan. 2013-May. 2013	Visiting Professor
6	Prof. B.N. Thorat	Lyon, France	August 24-27, 2014	Economic evaluation of Solar Cabinet Dryer System: a case study on onion drying,
		Dona Paula, Goa	6th February 2011	The role of drying in the preparation of food and feed with special reference to lactic cultures
		Ahmadabad, Gujarat	13-15 March, 2013	Granulation and flow characteristics of solids. Keynote speaker at Powder and Bulk Solids India
		Bangkok, Thailand	IFET, 2012	Effect of various pretreatments and drying techniques on Thompson

				seedless grapes
		Graz, Austria	16-20 April, 2012	Filtration of mycelium suspension from fermentation broth
		Las Vegas, USA	25 Jun- 28 Jun 2012	Drying of Bitter Melon by Various Methods and its Evaluation
		Xiamen, China	11-15 November 2012	Process development for dehydrated flavoured Chicken shreds from spent hen meat
		Wiesbaden, Germany	22 October, 2013	Antisolvent crystallization and pressure filtration of Salicylic Acid: Influence of mixing conditions
7	Prof. M Lakshmi Kantam Adjunct professor	RMIT University	continuing	Joint research work and lectures

25 Faculty serving in

a) National committees b) International committees c) Editorial Boards

Professor G. D. Yadav
• Elected Chair, APCAT-7, 7th Asia Pacific Congress on Catalysis Societies, January 17-21, 2017 • Chemistry of Clean Energy Conversion, Storage, and Production, Nano Catalysis for Clean Energy and environmentally Friendly Chemical Production (#81) organized by Ajay Dalai, Nicolas Abatzoglou, Burtron Davis, Azhar Uddin, Jansuz Kozinski, G.D. Yadav and Ahmad Tavasoli, PACIFICHEM 2015: The International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, Dec. 15-20, 2015 • Founder Chair- ACS India International Chemical Sciences Chapter • Coordinator from ICT, Indo-Canadian Centre: IC-IMPACTS with University of British Columbia, University of Alberta and University of Toronto and 6 Indian institutes • Editor-in-Chief, Catalysis in Green Chemistry and Engineering, Begell House, New York • Co-Editor with M. Lakshi Kantam and B.M. Bhanage, ACS Sustainable Chemistry and

Engineering Special Issue on 'Catalysis for Sustainable Development, Peace and Prosperity

- Co-Editor with M. Lakshi Kantam and B.M. Bhanage, Catalysis Today (Elsevier) Special Issue on 'Catalysis for Sustainable Development, Peace and Prosperity
- Co-Editor, with B.M. Bhanage Clean Technology and Environmental Policy (Springer) Special Issue on 'Catalysis for Sustainable Development, Peace and Prosperity
- Associate Editor, European Journal of Biotechnology and Bioscience
- Member, Editorial Board, Green Chemistry (RSC, UK)
- Associate Editor, Current Catalysis, Bentham Science Publishers
- Distinguished Plenary Speaker, 42nd Convention of the South African Chemical Institute, Durban, November 29-Decenmber 4, 2015
- Distinguished Global Leader Seminar Speaker, Imperial College London (Leaders who have shaped the future of Chemical Engineering Profession, March 11, 2014
- Adjunct Professor, University of Saskatchewan, Faculty of Engineering, Department of Chemical and Biological Engineering, Canada (June 2013- onwards)

Prof. Arvind M. Lali

- Member, Task Force on Production of Methanol using Biomass/Municipal Solid Waste/source other than coal , NITI Aayog, New Delhi
- Member, Scientific Advisory Committee (SAC), Centre of Innovativeand Applied Bioprocessing (CIAB), Mohali
- Research Council as a Scientific Expert/Member for Bharat Petroleum Corporation Ltd. (BPCL)
- Member, core group of scientists in the area of Bioenergy with Ministry of New and Renewable Energy, Government of India.
- Member, Department of Biotechnology, Ministry of S&T of India Task Force in Biofuels, Algal Biotechnology and Bioproducts and Bioprocesses
- Member, Apex Committees, Food and Nutritional Safety, DBT, India.
- Member, Task Force Committees on Biofuels, Bioprocesses and Bio-products, DBT, India.
- Member of the Scientific Advisory Committee (SAC) on Industrial Biotechnology.
- Member of the Scientific Advisory Committee (SAC) on DBT-International Centre For Genetic Engineering And Biotechnology (ICGEB), New Delhi
- Member of the Scientific Advisory Committee (SAC) on DBT-IOC | Centre for Advanced Bioenergy Research, Faridabad
- Member of the Scientific Advisory Committee (SAC) on DBT-PAN IIT
- Member, Research Council Committee, IMTECH, Chandigarh

Prof. B.N. Thorat

1		Member. CAC Advisory Committee, Maharashtra Pollution Control Board, July 2017

		onward
2		Member, DSIR industrial R&D recognition and fiscal committee
3		Member. State Environment Appraisal Committee (SEAC-I), Govt. of Maharashtra, February 2014-October 2016
4		Member, Consent Committee, Maharashtra Pollution Control Board, 2006-2013.
5		Chairman, 1st to 11th International Workshop on Crystallization Filtration and Drying, 2006-2017
6		Committee member, Planning Commission "Working Group on XIIthfive year plan for higher education", Government of India. 2012
7		Founder President, "World Forum for Crystallization, Filtration and Drying", 2006. (http://www.wfcfd.org)
8		Chairman, 16th International Drying Symposium IDS2008, Hyderabad, India.
9		Chairman, International Workshop and Symposium on Industrial Drying, IWSID, 2004
Prof. A.B. Pandit		
1		Expert in Ph.D. (Tech.) fellowships selection in the area of Engineering and Technology for UGC and member PAC major Research Projects, UGC
2		Member of Project Appraisal Committee (PAC) for the Department of Science and Technology scheme for the Engineering Committee
3		Member of Project Appraisal Committee (PAC) of the Department of Science and Technology scheme for Chemical Engineering specialization under the SERC Program
4		Co-ordinator of DAE ICT Center for Chemical Engineering and Research
5		President of Board of Governors, UDCT Alumni Association, ICT Mumbai
6		Member of Project Appraisal Committee (PAC) for the Department of Science and Technology scheme for the Food Processing and Technology Committee
7		Member of Selection committee for Shanti Swaroop Bhatnagar Award, Fellowship of INSA, IASc and INAE
8		Member of Selection Committee for DST Inspire Faculty Fellow
9		Member of Selection Committee for INSA-NASI-IAS Summer Research Fellowship program
10		UGC Expert Member of Technical Evaluation at various University and Institute
Dr. P.R. Gogate		
1		Member, Executive committee, IIChE Mumbai Regional Center
2		Member, Board of Governors, UDCT Alumni Association
Prof. J.B. Joshi		
1		Chairman, Scientific advisory committee, IICT, Hyderabad
2		Chairman, FIST programme of DST, Govt of India
3		Member " Initiatives on Clean Coal Technologies"
4		Member : Indian National Academy of Engineering"
5		Chairman for the selection committee of director CSIR
6		Member " NRDC Awards Committee" New Delhi
7		President Marathi Vidnyan Parishad
Prof. P.K. Ghosh		
1		Chairman, Water Technology Initiative, Department of Science & Technology, GoI
2		Member, Board of Directors, Barefoot College, Tilonia, Rajasthan
3		Chairman, Project Evaluation Committee, Bilateral Programmes in Clean Tech Sector, DST-GITA
4		Member, NRDC Prize Award Committee
5		Member, Advisory and Screening Committee of the Common Research &

		Technology Development Hubs Programme of DSIR
6		Vice President, Materials Research Society of India (MRSI)
7		Member, Asian Paints Technology Council
8		Member, Expert Committee for Appraisal of programmes and projects undertaken by the Department of Biotechnology, GoI during the 12th Plan.
9		Co-Chairman, CSIR Mission Mode Project on Sustainable Development through Catalysis
10		Member, TIFAC's Global Technology Watch Group (GTWG) for Water Sector
Prof. M Lakshmi Kantam		
1		2016- Member, Board of Governors, IIT-Hyderabad
2		Member, DST –PAC (Inorganic and Physical Chemistry)
3		Member, Selection Committee, Raja Ramanna Fellowship Scheme, DAE
4		Member, Scientific Advisory Committee(SAC) on Hydrocarbons of MoP& NG
Prof. B. N. Thorat		
		International Advisory/Scientific Member on following societies: - Nordic Baltic Drying conference, **2003, 2005, 2009, 2011, 2015, 2017.** - International Drying Symposium (IDS), **2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018.** - Asia-Pacific Drying Conference, **2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017.** - Russian Thermal Processing Society, EFCE, **2005.** - French Drying Society (AFSIA), **2005, 2007.** - Polish Drying Society, Lodz, Poland, **2009.**
Prof. A.B. Pandit		
1		Fellow, Sir J. C. Bose, Department of Science and Technology, Government of India
2		Fellow, The World Academy of Sciences
3		Fellow, Maharashtra Academy of Sciences
4		Fellow, Indian National Academy of Engineering
5		Fellow, Indian Academy of Sciences
6		Fellow, Indian National Science Academy
7		Member of International advisory committee, Process Innovation and Process Intensification conference-September 2002, Scotland, UK
8		Member of International organising committee, International Symposium on Mixing in Industrial Processes-2004, Morocco
9		Member of International advisory committee, Meeting of the European Sonochemists Society (ESS-9)-2004 held at Badajoz, Spain
Membership of Editorial Boards of Prestigious International Journals		
Dr. P.R. Gogate		
1		Member, Editorial Board, Advances in Environmental Research – An international journal, 2013-2016
2		Member, Editorial board, Ultrasonics Sonochemistry (Elsevier), 2015-2018
3		Member, Editorial Board, Desalination and Water Treatment (Taylor & Francis), 2016-2018
4		Associate Editor, Chemical Engineering Processing, Process Intensification

		(Elsevier), 2016-2019
Prof. A.B. Pandit		
1		Member of Editorial Board, Journal of Mustard Research Promotion Council
2		*Member of Editorial Board and Associate Editor, UltrasonicsSonochemistry Journal, Elsevier, Netherlands*
3		Member of Editorial Board, Industrial Engineering and Chemistry
4		Member of Editorial Board, Chemical Engineering & Processing
5		Member of Editorial Board, Journal of Science Assam
6		Associate Editor of Canadian Journal of Chemical Engineering
Prof. J.B. Joshi		
1		Reviews in Chemical Engineering
Prof. S.S. Bhagwat		
1		Journal of surface science and technology
Prof. M Lakshmi Kantam		
1		Editorial Board Member, Journal of Chemical Sciences, Springer Publishers.
2		Editorial Board Member, Chemical Record (TCR), Wiley-VCH.

Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Inward Date	Duration	Month	Activity	Faculty Name	Objective	Deliverables	Institute
17/8/2012	15-21 October, 2012	October	"Management Building Capacity"	Dr. V.H. Dalvi	"Management Building Capacity"	Time management skills	Prin. L. N. Welingkar Institute Of Management, Development & research
17/8/2012	15-21 October, 2012	October	"Management Building Capacity"	Dr. P. R. Nemade	"Management Building Capacity"	Time management skills	Prin. L. N. Welingkar Institute Of Management, Development & research
17/8/2012	7-15 December, 2012	December	Subject Knowledge Enhancement	Dr. C.S. Mathapati	Learn To Use Dynamic Simulation Software/ Process Simulation Using	Undergraduate Education	Prof. Sanjay Mahajani, Department of Chemical Engineering, IIT-Bombay, Mumbai

					Aspen.		
17/8/2012	7-15 December, 2012	December	Subject Knowledge Enhancement	Dr. V.H. Dalavi	Learn to use Quantum Mechanical Calculation Software	Ability to use Quantum Mechanical Calculation Software	Dr. Raj Ganesh Pala, Department of Chemical Engineering, IIT, Kanpur)
17/8/2012	October-December 2012	October	Management capacity enhancement program	Dr.P. D. Vaidya	Enhancement of teaching and research skills by working under the supervision of Professor V. A. Juvekar In IIT Bombay **Subject : Advanced Mass Transfer**	Improved teaching skills,research collaboration and publications.	IIT Bombay
25/9/2012	15-21 October, 2012	October	"Management Building Capacity"	Dr. P. D. Vaidya	"Management Building Capacity"		Prin. L. N. Welingkar Institute Of Management, Development & research
22/1/2013	24 Feb 2013 1 - 4 Feb 2013	January	Management Training	Dr. P.R. Gogate	To attend Management Training at IIT Bombay		IIT Bombay, Powai
22/1/2013	24 Feb 2013 1 - 4 Feb 2013	January	Management Training	Dr. V. H. Dalvi	To attend Management Training at IIT Bombay		IIT Bombay, Powai
22/1/2013	24 Feb 2013 1 - 4 Feb 2013	January	Management Training	Dr. P. D. Vaidya	To attend Management Training at IIT Bombay		IIT Bombay, Powai
22/1/2013	24 Feb 2013 1 - 4 Feb 2013	January	Management Training	Dr. P. R. Nemade	To attend Management Training at IIT Bombay		IIT Bombay, Powai
22/1/2013	24 Feb 2013 1 - 4 Feb 2013	January	Management Training	Dr. Ratnesh Jain	To attend Management Training at IIT Bombay		IIT Bombay, Powai
21/2/2013	12-23 March 2013	March	Faculty Development	Dr. P. R. Nemade	Attend FDP on entrepreneurship and look to	White paper on ideas gained in the workshop	NITTTR, Bhopal, M.P.

					implement knowledge gained in the workshop to stimulate entrepreneurial spirit in the students		
3/7/2013	8-12 July 2013	July	Faculty Enhancement Activities	Dr. V. H. Dalvi	Introduction to CFD in Engineering Domain using Computing Softwares, at VJTI, Mumbai.		VJTI, Mumbai.
3/7/2013	8-12 July 2013	July	Faculty Enhancement Activities	Dr. C. S. Mathapati	Introduction to CFD in Engineering Domain using Computing Softwares, at VJTI, Mumbai.		VJTI, Mumbai.
4/7/2013	8 July, 2013	July	Conference	Dr. Neetu Jha	Paper Presentation In a Conference on Advanced Nanomaterials & Engineering Technologies		Sathyabama University, Jeppiaar Nagar, Rajiv Gandhi Road, Chennai - 600119, Tamil Nadu, India
5/7/2013	6 July, 2013	June	Enhancement for UG & research-Poster Presentation	Dr. P. R. Nemade	Poster Presentation arrangements for display of UG Research		ICT, Mumbai
5/16/2013	3-7 June 2013	June	Faculty Training(8th Summer School)	Dr. P. R. Nemade & Dr. S. M. Sontakke	Up to date knowledge in the field of refining, petrochemical and production technologies		Petroleum Refining & Petrochemicals, IiPM
13/6/2013	20 June, 2013	June	Faculty Developmen	Dr. D. V. Pinjari	Attending UGC	Faculty Development	UGC Faculty Recharge

			t		Meeting		Programme Old CRS Building, J.N.U. Campus, New Delhi
6/24/2013	8-12 July 2013	July	Faculty Enhancement Activities	Dr. P. D. vaidya	Introduction to CFD in Engineering Domain using Computing Softwares, at VJTI, Mumbai.		VJTI, Mumbai.
30/10/2013	11-15th Nov. 2013	October	Faculty Development Programme	Dr. Prakash D. Vaidya	Participation in Faculty Development Program on Catalysis, Chemistry Research Centre, BIT & PPISR, Bangalore	Catalysis Industrial Training Certification Program	Catalysis, Chemistry Research Centre, BIT & PPISR, Bangalore
1/17/2014	20-24/1/2014	January	Engineering Pedagogical Trainig Programme	Dr. Neetu Jha	Engineering Pedagogical Trainig Programme		Shruth & Smith Foundation
2/11/2014	21-22 Feb 2014	February	Faculty Development Program on Virtual Labs Organised by COEP	Dr. Sujit S. Jogwar	To learn about the virtual Lab initiative undertaked at COEP and familiarize with the remote Triggered Advanced Process Control Lab	Use of virtual lab for own research, potential use of remote advanced process control lab for chemical engineering students	Department of Instrumentation & Control
4/3/2014	11-12, April 2014	April	Faculty Development	Dr. C. S. Mathpati	Present proposal for funding to DAE		TPDM Mangalore University, Karnataka
4/3/2014	11-12, April 2014	April	Faculty Development	Dr. P. R. Nemade	Present proposal for funding to DAE		TPDM Mangalore University, Karnataka
6/6/2014	23-27 June, 2014	June	Management Capacity	Dr. Vishwanat	Gain insights into	Plan for improving	IIT Kanpur

			Enhancement	h H. Dalvi	teaching of physics and related fields. Invaluable for teaching and staying current as a researcher.	courses in physics and allied subjects e.g: Statistical Mechanics and Computer Simulation	
6/10/2014	28-29 March 2014	February	Pedagogy Training	Dr. Vishwanath Dalvi	To introduce teaching-learning modes to young faculty of ICT	Better classsroom management, lecture delivery & assessment	ICT
6/10/2014	28-29 March 2014	February	Pedagogy Training	Dr. Ashwin Patwardhan	To introduce teaching-learning modes to young faculty of ICT	Better classsroom management, lecture delivery & assessment	ICT
6/10/2014	28-29 March 2014	February	Pedagogy Training	Dr. Vijay Kumar	To introduce teaching-learning modes to young faculty of ICT	Better classsroom management, lecture delivery & assessment	ICT
6/10/2014	28-29 March 2014	February	Pedagogy Training	Dr. Prakash Vaidya	To introduce teaching-learning modes to young faculty of ICT	Better classsroom management, lecture delivery & assessment	ICT
6/10/2014	28-29 March 2014	February	Pedagogy Training	Dr. Sachin Mathpati	To introduce teaching-learning modes to young faculty of ICT	Better classsroom management, lecture delivery & assessment	ICT
6/10/2014	28-29 March 2014	February	Pedagogy Training	Dr. V. K. Rathod	To introduce teaching-learning modes to young faculty of ICT	Better classsroom management, lecture delivery & assessment	ICT
6/10/2014	28-29 March 2014	February	Pedagogy Training	Dr. P. R. Nemade	To introduce teaching-learning	Better classsroom management,	ICT

					modes to young faculty of ICT	lecture delivery & assessment	
7/3/2014	03-08 July 2014	July	Capacity Development of Faculty	Dr. Neetu Jha	To help the faculty members understand and address the crucial issue of appropriate mentoring in a holistic manner & impart to them the techniques to cope up with daily stess.	Honing mentoring skills of ICT faculty, Stress management at ICT	ICT
7/3/2014	03-08 July 2014	July	Capacity Development of Faculty	Dr. Ratnesh Jain	To help the faculty members understand and address the crucial issue of appropriate mentoring in a holistic manner & impart to them the techniques to cope up with daily stess.	Honing mentoring skills of ICT faculty, Stress management at ICT	ICT
7/3/2014	03-08 July 2014	July	Capacity Development of Faculty	Dr. V. H. Dalvi	To help the faculty members understand and address the crucial issue of appropriate mentoring in a holistic manner & impart to them the techniques to cope up with daily	Honing mentoring skills of ICT faculty, Stress management at ICT	ICT

					stess.		
7/3/2014	03-08 July 2014	July	Capacity Development of Faculty	Dr. Sadhana Sathaye	To help the faculty members understand and address the crucial issue of appropriate mentoring in a holistic manner & impart to them the techniques to cope up with daily stess.	Honing mentoring skills of ICT faculty, Stress management at ICT	ICT
7/3/2014	03-08 July 2014	July	Capacity Development of Faculty	Dr. Parag Gogate	To help the faculty members understand and address the crucial issue of appropriate mentoring in a holistic manner & impart to them the techniques to cope up with daily stess.	Honing mentoring skills of ICT faculty, Stress management at ICT	ICT
7/3/2014	03-08 July 2014	July	Capacity Development of Faculty	Dr. P. R. Nemade	To help the faculty members understand and address the crucial issue of appropriate mentoring in a holistic manner & impart to them the techniques to cope up with daily stess.	Honing mentoring skills of ICT faculty, Stress management at ICT	ICT
12/5/2014	15-20,Decem	Decembe r	Managemen t capacity	Dr. Prakash	Training on management		Self and Institute

	ber 2014		enhancement program	Vaidya	Capacity Enhancement for Administrators		
12/5/2014	15-20,December 2014	December	Management capacity enhancement program	Dr. P. R. Nemade	Training on management Capacity Enhancement for Administrators		Self and Institute
#######	05-09 January, 2015	January	Pedagogy Training	Dr. Prakash D. Vaidya	Pedagogy Training	Pedagogy for effective use of ICT in Engineering Education	IIT Bombay
1/1/2015	5 days	Jan	Pedagogy Training	Dr. P. R. Nemade	To attend workshop on teaching pedagogy at IIT Bombay	NA	IIT Bombay
1/1/2015	5th jan - 9th jan	Jan	Pedagogy Training	Dr.S.M.Sontakke	To attend workshop on teaching pedagogy at ICT in Engg Education	Training program on teaching skills	IIT Bombay
3/30/2015	12-16Feb 2015	February	Subject Knowledge Enhancement	Dr. V.H. Dalvi	To teach applied maths & hence computer programming better	Teaching Applied Mathematics to post graduate students in engineering	IITBombay
6/5/2015	13-15July2015	July	Management capacity enhancement program	Prof. V.G.Gaikar	Patent drafting & filing &IP Management		Self and Institute
6/2/2015	17-21 August 2015	August	Management capacity enhancement program	Prof. V. G. Gaikar	To get trained in financial management		To get trained in financial management
6/25/2015	26-28June 2015	June	Workshop	Dr. V. H. Dalvi	Workshop on Advanced data Analytics in management (ADAM-2015) at IIT-Delhi	Insight into data analytics	Greater sophistication in ICT admin activities
6/6/2015	13-	July	Managemen	Prof.	Petent		Self and

	15July2015		t capacity enhancement program	V.G.Gaikar	drafting & filing &IP Management		Institute
6/2/2015	17-21 August 2015	August	Management capacity enhancement program	Prof. V. G. Gaikar	To get trained in financial management		To get trained in financial management
5/7/2015	13-15 May 2015	May	FDP (workshop)	Dr. Sujit Jogwar	Learning beast practices to teach Applied Mathematics to Engineering students		Faculty members of engg. Coll.with post graduate courses
12/29/2015	22nd Feb.2016 to 27th Feb. 2016	February	Workshop	Prof. V. G. Gaikar	To network with Indian & German Institutes in the workshop at Guhawati - IIT	To Form Collborative projects in N-E States	
12/29/2015	11th and 12th Jan. 2016	January	Conference	Prof. V. G. Gaikar	To attend " International Conference in Engineering Education " at COEP , Pune	To learn new Pedagogy	
12/29/2015	8th and 9th Jan. 2016	January	Leadership Program RUSA Meeting at New Delhi	Prof. V. G. Gaikar	To undergoan Leadership Development Program under RUSA	Learning Leadership Skill	
1/1/2016	13th Feb. 2016 to 16th Feb. 2016	February	Symposium	Dr. S. M. Sontakke	To attend Symposium " ChemE@IISC Symposium (CIS) 2016" at Dept. of Chemical Engineering at Indian Institute of science, Bangalore		

27. Student projects

- Percentage of students who have done in-house projects including inter-departmental projects :**(100%)**
- Percentage of students doing projects in collaboration with other universitiesindustry / institute: **(15-20 % students at PG level in research) and (100% for UG for in-plant training)**

28. Awards / recognitions received at the national and international level by Faculty, Doctoral/post doctoral fellows and students

Professor G. D. Yadav	
2016	Padma Shri (January 26, 2016) by President of India; 28th March (For exceptional contributions to Science and Engineering)
2016	D. Sc. (Hon. Causa) – D.Y. Patil University Kolhapur, 13th April
2016	Loknete Sadashivrao Mandalik Jeevan Gaurav Puraskar, Kolhapur.
2015	Karveer Bhushan, Rotary Club of Karveer Kolhapur for contributions to profession and society
2014	Life Time Achievement Award and Gold Medal, Indian Chemical Council
2014	IPCL Award for Best M Tech Thesis (Student : Abhijit Talpade, Guide:Prof G.D. Yadav), Indian Society for Technical Education
2015	Chinese Academy of Sciences, Dalian, May 2015
2014	L'Oreal Science Inside Out Symposium, L'Oreal Research and Innovation
2014	IPCL Award for Best M. Tech Thesis in Chemical Engineering by Indian Society for Technical Education to Mr Abhijit Talpade (Student) and G.D. Yadav (Guide), 2014
2015	Hindustan Platinum Award for the Best Poster Presentation: Akhil Nakhate and G.D. Yadav, at CATSYMP 2015, Catalysis Society of India, January 7-9, CSMCRI, Bhavnagar.
2014	Honoured with a Festschrift (special issue) by Industrial and Engineering Chemistry Research, ACS (Vol. 53, Issue 49 (10 December 2014) for life time achievement: http://pubs.acs.org/toc/iecred/current# GanapatiDYadavFestschriftEditorial

Sr. No.	Faculty	Awards and Honors	Year
1	**B.N. Thorat**	Gunther Oertel Startup Innovation Award for Microbutor Innovation, Covestro,(Former Bayer Material Science, Germany).	2017
		Millennium Alliance Award by UKAID-FICCI, **10 lakh US Dollar** (solar conduction dryer scale-up in Nepal)	2016
		Millennium Alliance Award by UKAID-FICCI, **10 lakh US Dollar** (Casaava Tech Scale-up in Kenya)	2016
		NOCIL AWARD for excellence in design of new equipment and process.	2015
		The VASVIK Award for the year 2012 in the field of Chemical Sciences and Technology.	2015
		Grand Challenges India Award by BIRAC-USAID and Gates Foundation	2014
		BIRAC award , Design and development of electricity free baby incubator	2014
		Bill and Melinda Gates Foundation Award of USD 100,000 (One Lakh US Dollar) for Innovative Cassava Dryer.	2013
		Bill and Melinda Gates Foundation Award of USD 100,000 (One Lakh US Dollar) for Innovative Solar Grain Dryer.	2013

		Dell Social Innovation Award of USD 60,000 (Sixty thousand US Dollar) for developing "Solar Conduction Dryer".	2013
		Vocational Excellence Award, for his valuable contribution to Science and Society for making Solar Conduction Dryer for the Agricultural Sector, Rotary Club of Mumbai Cuffe Parade.	2013
		Award for Excellence in Drying and Promotion of the Nordic Drying Conferences in Asia at 5th Nordic Drying Conference, Helsinki, Finland.	2011
2	**Vishwanath Dalvi**	Best Teacher Award of the Institute of Chemical Technology Mumbai	2011
		Best Teacher Award of the Institute of Chemical Technology, Mumbai	2017
3	**P.R. Gogate**	-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
4	**Prof S. S. Bhagwat**	INSA best teacher award	2016
5	**Virendra K. Rathod**	Fellow of Maharashtra Academy of Sciences	2015
6	**P D Vaidya**	India Fellowship Award 2015, University of Liverpool, UK	2016
7	**Dr. Ratnesh Jain**	DAE young scientist award	2012
8	**Dr. Ratnesh Jain**	Young Associate ship, Maharashtra Academy of Science	2012
9	**Prof. P.K. Ghosh**	1. Fellow, Indian Academy of Sciences 2. Honorary Fellow, Indian Institute of Chemical Engineers 3. Lifetime Achievement Award, Indian Chemical Council 4. Indian Desalination Association's Lifetime Achievement Award (2015) 5. MRSI Silver Jubilee Medal (2014) 6. National Science Day Lecture, NCL Pune (28 Feb 2017)	
10	**Prof. A.M. Lali**	• Awarded "G.M.Marve" Prize for Most Research Oriented Group during 2016-17 by Institute of Chemical Technology, Mumbai • Science and Technology "Eminent Scientist" Award by KG Foundation, Coimbatore, 2016. • BIRAC Innovator Award 2016 by DBT & Chairman BIRAC, 2016 • UAA-ICT Distinguished Alumnus Awards in Academic, 2015. • Vasvik Award in Biological Sciences & Technology by	

		VividhlaxiAudyogikSamshodhanVikas Kendra, Mumbai, 2013	
11	**Prof. A. B. Pandit**	Sir J. C. Bose Fellow of the Department of Science and Technology, Government of India	2015
		Vishwakarma Medal, INSA	2015
		Fellow The World Academy of Sciences (TWAS)	2015
		INSA, Best Teacher Award	2012
12	**Prof. M Lakshmi Kantam**	Fellow of Maharashtra Akademy of Sciences,	2016
		Eminent Scientist Award – Catalysis Society of India.	2015
		Fellow of the Indian National Science Academy	2014
		Fellow of The Royal Society of Chemistry, UK	2013
		Chairperson, Subject Expert Committee, Women Scientists Scheme, Department of Science and Technology, Government of India	2010-15
13	**Prof. V. G. Gaikar**	ChE-D.O.S.T. Dr. S.K. Sharma Medal and CHEMCON Distinguished Speaker Award	2013

29. Seminars/ Conferences/Workshops organized and the source of funding (national international) with details of outstanding participants, if any.

Sr. No.	Name of Faculty	11-12	12-13	13-14	14-15	15-16	16-17
		Seminar/Conference/workshop					
1	Bhagwat S S	1/1/2	2	4/7/0	2/2/3	0/2/1	0/1/2
2	Gaikar V G	2/6/8		1/14/0	4/3/5		
3	Gogate P R	0	5/0/2	3/4/0	2/0/1		
4	Jain R D	0		2/0/0	1/2/1		
5	Lali A M	2/1/1		2/4/1		1/1/1	1/1/2
6	Marathe K V	0/0/2		2/0/0			
7	Mathpati C S	0	3/0/0	0/3/1	0/2/0	0/2/1	0/1/2

8	Pandit A B	1		6/1/0	0/1/1		
9	Patwardhan A V	0		1/0/0	1/0/3		
10	Patwardhan A W	0/1/1	2/0/0	4/1/4	6/7/1		
11	Rathod V K	0		0/1/0		1/1/2	2/1/2
12	Sontakke S M	0/0/3		0/0/2			
13	Thorat B N	6/7/2	6/3/3	8/1/1	4/4/3	1/1/1	1/1/1
14	Vaidya P D	0/6/0		1/0/1			
15	Yadav G D	5/4/9					
16	Pinjari D V			3/1/0	6/0/0		
17	Jogwar S S			2/0/1	2/1/0		
18	Nemade P.R.				1/1/5		
19	Sontakke Jyoti				0/0/2		

30. Code of ethics for research followed by the departments

(a) Plagiarism is avoided using web based tools

(b) Honesty, team work is promoted

(c) Avoid results manipulation

31. Student profile programme-wise:

Name of the Programme (refer to question no. 4)	Applications received	Selected		Pass percentage Please update from exam/ Dr. Gogate	
		Male	Female	Male	Female
B Chem. Engg.					
2011-12	584	60	17	78.3%	76.5%
2012-13	745	60	18	100%	100%
2013-14	Admission through DTE	61	17	98.3%	100%
2014-15	Admission through DTE	56	24	98.2%	100%
2015-16	Admission through DTE	61	19	98.4%	100%
2016-17	Admission through DTE	62	19	98.2%	100%
M.Chem. Engg.					
2011-12	94	26	4	100%	100%
2012-13	180	21	4	100%	100%
2013-14	168	28	5	100%	100%
2014-15	290	21	9	100%	100%
2015-16	320	21	9	100%	100%
2016-17	380	25	5	100%	100%

32. Diversity of students:

Name of the Programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Chem Engg	0	70%	30%	0
M. Chem. Engg	2 to 5%	70%	20%	0

33. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Sr. No.	Name	Degree	Year of Passing	Present Position
1	Mr. Dhananjay Mali	B.Chem.Engg.	2003	IRS-2012
2	Mr. Arvind Ghuge	M.Tech.(Food)	2005	IRS-2013
3	Mr. Amit Shendarkar	B.Tech. and M.Tech.	2002 and 2005	Assistant Commissioner, Sales Tax -2012
4	Mr. Amit Puri	B.Tech.	2006	Tahsildar-2013
5	Mr. Navneet Singh	B.Tech.	2004	IPS-2010
6	Mr. Navin Bhat	B.Tech.	2005	IPS-2011
7	Mr. Manoj Chaudhari	B.Tech.	2006	Central Excise Inspector – 2012
8	Mr. Kiran Kale	B.Tech.	2005	Assistant Commissioner, Sales Tax -2013

All the M Chem Engg students are GATE qualified.

No. of undergraduates students who opted to give and qualified GATE examination:

Sr. No.	Year	No. of Students
1	2011-12	3
2	2012-13	5
3	2013-14	3
4	2014-15	4
5	2015-16	25
6	2016-17	32

34. Student progression

Student progression	Percentage against enrolled
UG to PG	50 %
PG to M.Phil.	NA
PG to Ph.D.	70 %
Ph.D. to Post-Doctoral	10 %
Employed	
Campus selection	95 %
Other than campus recruitment	3%
Entrepreneurs	2%

35. Diversity of staff

Percentage of faculty who are graduates	
of the same university	74%
from other universities within the State	21%
from universities from other States	0.5%
from universities outside the country	NIL

36. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: 2

37. Present details of departmental infrastructural facilities with regard to

a) Library : Institute level library with books and journal subscriptions

b) Internet facilities for staff and students : Reliance NKN VSNL (15 MBPS, 1 GBPS, 2 MBPS (1:1))

c) Total number of class rooms : 4

d) Class rooms with ICT facility : 4

e) Students' laboratories : 2 (UG level)

f) Research laboratories

Laboratory number	Name of the Laboratory	Area in sq.m.	Working capacity (number of students)	Usage (UG/PG/Research)
A117	UG Main Lab	346.89	250	UG
A122	UG Heat Lab	61.92	250	UG
	LDA Lab	81.79	13	PG
A107	Chem. Engg. Com. Vision Lab.	51.66	20	PG
A115	HP Lab	91.03	38	PG
	Autoclave Lab		15	PG
A005(CEB-2)	Basement Lab	58.31	14	PG
CEB1	Basement/Instrument Lab.	82.50	4	
CEB8	Basement Lab I	61.29	6	
CEB7	Basement Lab II	37.44	4	
CEB4	Basement Lab III	50.05	6	
CEB3	Basement Lab	35.02	12	
	Advanced Centre	248.14	48	
CEB5	Basement Lab I	35.26	4	
CEB6	Lab II	37.81	8	
C-106	Lab	50.96	4	
	Oils Lab 1st floor	122.91	5	
	Oils Lab 2nd floor	33.34	21	
	Lalvani BPT Lab	159.95	3	
	Lalvani Centre	232	44	

Common Instrumentation facility

Instrumentation Lab		
A 125	Analytical Lab	75.58
	Steam Lab	56.55
	High Pressure	90.40
	Yadav Sir's Lab I	65.47
	Yadav Sir's Lab II	76.92

All research students (516) spend 10% of their time in common instrumentation facility.

38.List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university
b) from other institutions/universities

Sr.No.	Name of the student	Degree	Supervisor
1	Vikas Patil	PDF	GDY
2	Jyoti Sontakke	PDF	GDY
4	Vikas Patil	PDF	GDY
5	Sutar Parag	PDF	PDV
7	Juilee Palkar	Ph. D (Sci)	AML
8	Archana Krishnan	Ph. D (Sci.)	AML
9	Manish Yadav	Ph. D (Sci.)	AML
10	Mallikarjun Patil	Ph. D (Sci.)	AML
11	Rajeshwar Valte	Ph. D (Tech)	AML
12	Sachinkumar Birhade	Ph. D (Tech)	AML
13	Abha Sahu	Ph. D. (Sci.)	ABP
14	Bhagwat Patil	Ph. D. (Sci.)	ABP
15	Chaitali Vira	Ph. D. (Sci.)	AML
16	Jayant Rathod	Ph. D. (Sci.)	AML
17	Juliet Victoria	Ph. D. (Sci.)	AML
18	Lucy Nainan	Ph. D. (Sci.)	AML
19	Mrunal Warke	Ph. D. (Sci.)	AML
20	Padmini Iyer	Ph. D. (Sci.)	AML
21	Prathamesh Wadekar	Ph. D. (Sci.)	AML
22	Parikshit Sawdekar	Ph. D. (Sci.)	AML
23	RajeshVadgama	Ph. D. (Sci.)	AML
24	Rutuja Vaze	Ph. D. (Sci.)	AML
25	Ritu Maurya	Ph. D. (Sci.)	AML
26	Richa Tiwari	Ph. D. (Sci.)	AML
27	Swanand Gangal	Ph. D. (Sci.)	AML
28	Sneha Sawant	Ph. D. (Sci.)	AML
29	Sonal Sawant	Ph. D. (Sci.)	AML
30	Smita Patil	Ph. D. (Sci.)	AML
31	Sujata Gaikwad	Ph. D. (Sci.)	AML
32	Shalini Deb	Ph. D. (Sci.)	AML
33	Sachdeo Daware	Ph. D. (Sci.)	AML
34	Vijita V. Pillai	Ph. D. (Sci.)	AML
35	Bhupal Asodekar	Ph. D. (Sci.)	AML

36	Monali Kavadia	Ph. D. (Sci.)	AML
37	Suveera Bellary	Ph. D. (Sci.)	AML
38	Anup Sonawane	Ph. D. (Sci.)	AML
39	Poornima Rao	Ph. D. (Sci.)	AML
40	Vikram Chaudhary	Ph. D. (Sci.)	AML
41	Hiral Shukla	Ph. D. (Sci.)	AML
42	Hitesh Pawar	Ph. D. (Sci.)	AML
43	Daware Sachdeo	Ph. D. (Sci.)	AML
44	Nitesh Kumar Sigh	Ph. D. (Sci.)	AML
45	Dhopte Kiran	Ph. D. (Sci.)	AWP
46	Yogesh Choughule	Ph. D. (Sci.)	AVP
47	Machhindra Bhalerao	Ph. D. (Sci.)	AVP
48	Shweta Kumbhaj	Ph. D. (Sci.)	AVP
49	Nagauvekar Nupur	Ph. D. (Sci.)	BNT
50	Jeetendra Salunke	Ph. D. (Sci.)	GDY
51	Bapu Gawade	Ph. D. (Sci.)	GDY
52	Kalpesh Bhadra	Ph. D. (Sci.)	GDY
53	Dhiraj Katole	Ph. D. (Sci.)	GDY
54	Gunjan Deshmukh	Ph. D. (Sci.)	GDY
55	Shivaji Bhanvase	Ph. D. (Sci.)	GDY
56	Akhil Nakhate	Ph. D. (Sci.)	GDY
57	Jayaram Molleti	Ph. D. (Sci.)	GDY
58	Abhilash Sukhdeve	Ph. D. (Sci.)	GDY
59	Kalidas Rasal	Ph. D. (Sci.)	GDY
60	Anil Gawade	Ph. D. (Sci.)	GDY
61	Pooja Tambe	Ph. D. (Sci.)	GDY
62	Mohanapriya K.	Ph. D. (Sci.)	NJ
63	Yadav Abhimanyu	Ph. D. (Sci.)	PDV
64	Jadhav Suhas	Ph. D. (Sci.)	PDV
65	Patil Shailesh	Ph. D. (Sci.)	PDV
66	Jadhav Suhas	Ph. D. (Sci.)	PDV
67	Amrutlal Prajapat	Ph. D. (Sci.)	PRG
68	Shobha Desai	Ph. D. (Sci.)	SSB
69	Manisha Ahire	Ph. D. (Sci.)	SSB
70	Vrushali Dengle	Ph. D. (Sci.)	SSB
71	Anik Goswami	Ph. D. (Sci.)	SSB
72	Patil Rahul	Ph. D. (Sci.)	SSB

73	Deepak Chabukswar	Ph. D. (Sci.)	VGG
74	Kalpesh Khot	Ph. D. (Sci.)	VGG
75	Mahesh Kadam	Ph. D. (Sci.)	VGG
76	Mufeedah Muringakandy	Ph. D. (Sci.)	VGG
77	Suwarna Hiware	Ph. D. (Sci.)	VGG
78	Tasneem dabir	Ph. D. (Sci.)	VGG
79	Yogeshwar Dubhashe	Ph. D. (Sci.)	VGG
80	Chandrakanth G.	Ph. D. (Sci.)	VKR
81	Sagar Gadalkar	Ph. D. (Sci.)	VKR
82	Sneha Bansode	Ph. D. (Sci.)	VKR
83	Govind Waghmare	Ph. D. (Sci.)	VKR
84	Sarita Gawas	Ph. D. (Sci.)	VKR
85	Anilkumar Gupt	Ph. D. (Sci.)	VKR
86	Shinde Yogesh	Ph. D. (Tech.)	ABP
87	Rekha B. N.	Ph. D. (Tech.)	ABP
88	Manchalwar Shirish	Ph. D. (Tech.)	ABP
89	Shingade Sunil	Ph. D. (Tech.)	ABP
90	Atul Bari	Ph. D. (Tech.)	ABP
91	Mandar Badve	Ph. D. (Tech.)	ABP
92	Karuna Nagula	Ph. D. (Tech.)	ABP
93	Shankar Kausely	Ph. D. (Tech.)	ABP
94	Sachin Jadhao	Ph. D. (Tech.)	ABP
95	Suruchi Rao	Ph. D. (Tech.)	AML
96	Sushitha Nair	Ph. D. (Tech.)	AML
97	Narnaware Sharad	Ph. D. (Tech.)	AML
98	Abhijit Rathi	Ph. D. (Tech.)	AML
99	Anand Gupta	Ph. D. (Tech.)	AML
100	Arjun Singh Bajwa	Ph. D. (Tech.)	AML
101	Febin Pappachan	Ph. D. (Tech.)	AML
102	Gaurangi Deore	Ph. D. (Tech.)	AML
103	Gautam Degwekar	Ph. D. (Tech.)	AML
104	Lalit Khot	Ph. D. (Tech.)	AML
105	Mandrita Chatterjee	Ph. D. (Tech.)	AML
106	Mukesh Pednekar	Ph. D. (Tech.)	AML
107	Manoj Chavan	Ph. D. (Tech.)	AML
108	Prashant Kumar	Ph. D. (Tech.)	AML
109	Sandip Kadam	Ph. D. (Tech.)	AML

110	Sunil Sunkara	Ph. D. (Tech.)	AML
111	Sharad Narnaware	Ph. D. (Tech.)	AML
112	Vinod Amritkar	Ph. D. (Tech.)	AML
113	Agrawal Snehal	Ph. D. (Tech.)	AML
114	Yogesh Mirage	Ph. D. (Tech.)	AVP
115	Prasad V. Vernekar	Ph. D. (Tech.)	AWP
116	Ajit Kulkarni	Ph. D. (Tech.)	AWP
117	Ajay D. Sharma	Ph. D. (Tech.)	AWP
118	Sharma Anita	Ph. D. (Tech.)	AWP
119	Rajput shaileshrasingh	Ph. D. (Tech.)	BNT
120	Rahul Aware	Ph. D. (Tech.)	BNT
121	Sushil Deulgaonkar	Ph. D. (Tech.)	BNT
122	Vaibhav Tidke	Ph. D. (Tech.)	BNT
123	Sawant Shekhar	Ph. D. (Tech.)	CSM
124	Hrushikesh Khadamkar	Ph. D. (Tech.)	CSM
125	Sona C.S.	Ph. D. (Tech.)	CSM
126	Pakhare Achynt	Ph. D. (Tech.)	CSM
127	Gajbhiye Bhavesh	Ph. D. (Tech.)	CSM
128	Kulkarni Mandar	Ph. D. (Tech.)	GDY
129	Prasad Mandade	Ph. D. (Tech.)	GDY
130	Satish Kabra	Ph. D. (Tech.)	GDY
131	Manish Tiwari	Ph. D. (Tech.)	GDY
132	Saurabh Patankar	Ph. D. (Tech.)	GDY
133	Manoj Kamble	Ph. D. (Tech.)	GDY
134	Pravin Patil	Ph. D. (Tech.)	GDY
135	Kalpesh Bhavsar	Ph. D. (Tech.)	GDY
136	Shivani Vedula	Ph. D. (Tech.)	GDY
137	Deepali Magadum	Ph. D. (Tech.)	GDY
138	Karan Chavan	Ph. D. (Tech.)	KVM
139	Amar Vibhandik	Ph. D. (Tech.)	KVM
140	Karmore Ashvin	Ph. D. (Tech.)	PDV
141	Dewodlkar Karan	Ph. D. (Tech.)	PDV
142	Barge Aditi	Ph. D. (Tech.)	PDV
143	Karmore Ashvin	Ph. D. (Tech.)	PDV
144	Baviskar Chetan	Ph. D. (Tech.)	PDV
145	Nimkarde Mahesh	Ph. D. (Tech.)	PDV
146	Vemula Shrikant	Ph. D. (Tech.)	PDV

147	Bindwal Ankush	Ph. D. (Tech.)	PDV
148	Maddekari Ganesh L.	Ph. D. (Tech.)	PRG
149	Ramisetty Kiran kumar	Ph. D. (Tech.)	PRG
150	Patil Pankaj N.	Ph. D. (Tech.)	PRG
151	Ramteke Lokesh P.	Ph. D. (Tech.)	PRG
152	Subhedar Preeti	Ph. D. (Tech.)	PRG
153	Rajashree Jawale	Ph. D. (Tech.)	PRG
154	Zambre Rahul	Ph. D. (Tech.)	PRN
155	Choudhari Sushil	Ph. D. (Tech.)	PRN
156	Pofali Prasad	Ph. D. (Tech.)	RDJ
157	Gargi Redkar	Ph. D. (Tech.)	SBK
158	Sushita Koley	Ph. D. (Tech.)	SBK
159	Sane Priyanka	Ph. D. (Tech.)	SMS
160	Swapnil pakhale	Ph. D. (Tech.)	SSB
161	Sudarshan kalsulkar	Ph. D. (Tech.)	SSB
162	Jitendra tongaonkar	Ph. D. (Tech.)	SSB
163	Vaibhav kedar	Ph. D. (Tech.)	SSB
164	Kalpana Mahalle	Ph. D. (Tech.)	SSB
165	Pallavi Parab	Ph. D. (Tech.)	SSB
166	Kumudini Lokhande	Ph. D. (Tech.)	SSB
167	Aditya Koli	Ph. D. (Tech.)	VGG
168	Amogh Joshi	Ph. D. (Tech.)	VGG
169	Jyotsna Arora	Ph. D. (Tech.)	VGG
170	Khursheed Ansari	Ph. D. (Tech.)	VGG
171	Meena Singh	Ph. D. (Tech.)	VGG
172	Noopur Rathi	Ph. D. (Tech.)	VGG
173	Parminder Kaur Heer	Ph. D. (Tech.)	VGG
174	Pravin Bote	Ph. D. (Tech.)	VGG
175	Vaishali Thaore	Ph. D. (Tech.)	VGG
176	Vishal Sawant	Ph. D. (Tech.)	VGG
177	Yogita Labrath	Ph. D. (Tech.)	VGG
178	Sachin Jadhav	Ph. D. (Tech.)	VKR
179	Mangesh Vetal	Ph. D. (Tech.)	VKR
180	Sonali Niphadkar	Ph. D. (Tech.)	VKR
181	Vrushali Kulkarni	Ph. D. (Tech.)	VKR
182	Dhanashree Panadare	Ph. D. (Tech.)	VKR
183	Priyanka Rao	Ph. D. (Tech.)	VKR

184	Nishat Khan	Ph. D. (Tech.)	VKR
185	Wasanik Parag	Ph.D. (Tech.)	NJ
186	Baviskar Chetan	Ph.D. (Tech.)	PDV
187	Nimkarde Mahesh	Ph.D. (Tech.)	PDV
188	Pachpate Nilam	Ph.D. (Tech.)	PDV
189	Budhwani Neha	Ph.D. (Tech.)	PDV
190	Patil Bhumika	Ph.D. (Tech.)	RVJ
191	Prashant Kotian	Ph.D. (Tech.)	SSB
192	Vaishali Kulkarni	PhD Tech (BPT)	AVP
193	Dnyaneshwar Bhand	PhD Tech.(BPT)	AVP
194	Revati Chavan	R A	VKR
195	Prakash Parhad	R. Scientist	GDY
196	Ashwini Nirukhe	R. Scientist	GDY
197	Tushar Gaware	R.A.	BNT
198	Ganesh Bhere	R.A.	BNT
199	Shital Somani	R.A.	BNT
200	Ashwin Pawade	R.A.	BNT
201	Sandeep Shukla	R.A.	BNT
202	Manoj Gor	R.A.	BNT
203	Rajan Mishra	R.A.	BNT
204	Ashwini Gaikwad	R.A.	BNT
205	Amol Waghmode	R.A.(JRF)	ABP
206	Nivarutti Patil	RA	AWP

39. Number of post graduate students getting financial assistance from the university.
All the students get financial assistance from various funding agencies such as UGC, CSIR, DAE, AICTE, industrial projects etc. As per Institute's norms, candidates can not be registered till fellowship support is provided.

40.Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes. The recently launched new program, certificate course in safety management was well thought based on the need of the chemical industry. The syllabus has been framed with help of industry experts besides academic experts. A seminar was also organized prior to finalize the syllabus and deliberate on the subject content.

41. Does the department obtain feedback from

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Syllabus is revised every five years and all the suggestions from alumni, teachers, industrialists, eminent professors and scientists are obtainied to keep the syllabus in tune with present needs.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Every semester students provide their feedback and which is shared with HoD and staff members and necessary corrective actions are taken.

c. alumni and employers on the programmes offered and how does the department utilize the feedback?

The feedback is utilized in syllabus revision.

42. List the distinguished alumni of the department

1. Padmavibhushan Professor M. M. Sharma
2. PadmavibhushanDr. R. A. Mashelkar
3. Mr. Mukesh Ambani (CMD, RIL)
4. Professor D. Ramkrishna (Distinguished Professor, Purdue University)
5. Padmashri Dr. Keki Gharda
6. Padmabhushan Prof. J.B. Joshi
7. PadmashriProf. G.D. Yadav
8. Mr. Vijay Ratanparkhe (MD, BOSCH)
9. Mr. Kishor Mariwala (Marico Group)
10. Mr. Sunil Ramanand (Police Commissioner)

43.Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

Sr. No.	Date	Name of External Experts	Topic	Endowment
	28.11.2013	Professor D.H. Thompson	Cyclodextrin Based Materials for Gene Delivery and Niemann-Pick C Type Therapy	Shri G.M. Abhyankar Memorial Distinguished Fellow
	28.11.2013	Professor D.H. Thompson	Cyclodextrin Based Materials for Gene Delivery and Niemann-Pick	Shri G.M. Abhyankar

			C Type Therapy	Memorial Distinguished Fellow
	02.01.2014	Professor Prashant Jain	Elucidating Chemical Reactions on the Nanoscale	Golden Jublee Visiting Fellowship
	09.01.2014	Professor R. Krishna Univ. of Amsterdam	Molecular Traffic in Nanoporous Materials	B S Joshi Distinguished Fellow
	16.01.2014	Dr. Ken Williams	The science and technique behind Raman Spectrometer and its application in Material Sciences	TEQIP
	30.01.2014	Dr. Uday Shenoy	Targeting and Network Synthesis for Optimal Use of Resources	Shrimati Kusumben and Shri Mathradas Kothari Visiting Professorship
7	4.02.2014	Prof. Artur Cavaco-Paulo,	Micro/nanotechnology and Biotech for pharma and personal care	Professor B.D. Tilak Visiting Fellowships
8	20.02.2014	Dr. Allen P. Minton	How biochemistry in vitro can differ from biochemistry in vivo	K.J. Somaiya Visiting Professor Fellowship
9	13.03.2014	Kiran Golwalkar	Safety Management and Project Management in Chemical Industry	Prof. R.A. Rajadhyaksha Memorial Lecture
10	27.03.2014	Kiran Golwalkar	Safety Management and Project Management in Chemical Industry	TEQIP
11	07.04.2014	Prof. Suresh Bhatia	Quantum molecular sieving of light isotopes	Golden Jublee Visiting Fellowship
12	17.04.2014	Prof. Dr. Asit Baran Mandal	How much we know about self-aggregated / self assembled systems? Utility of various techniques	B.D. Tilak Visiting Fellow
13	21.04.2014	Prof. Alfredo Ortiz	The importance of Ionic Liquids for attaining sustainable process intensification	Golden Jublee Visiting Fellowship
14	02.05.2014	Dr. Jeff Kenvin	Textural Characterization and a Unified Approach to Isotherm Modeling & Thermodynamic Parameters	K.J. Somaiya Visiting Professor
15	29.05.2014	Prof. S.P. Moulik	Energeticof Micelle formation: Non agreement between the Enthaply Measured by the direct method of Calorimetry & the indirect method of Van't Hoff	Dr. J.P. Kane Visiting Fellowship
16	09.07.2104	Dr. Garg	Simultaneous Production of US Grade Gasoline and Pure Aromatics from High Severity FCC Gasoline	Prof. R.A. Rajadhyaksha Memorial Lecture
17	14.07.2014	David Hodge	Alkaline and Oxidative Chemical Pretreatments and Fractionations	Golden Jublee Visiting

			for the Production of Fuels, Chemicals, and Materials from Lignocellulose	Fellowship
18	16.07.2014 17.07.2014	Ashutosh Sharma	Self-organization on Small Scales: Fabrication beyond the Top-down and Bottom-up	Shri V.V. Mariwala Visiting Professorship
19	28.07.2014	Dr. R. Vinu	Energy and Resource Recovery via Catalytic Fast Pyrolysis of Biomass, Polymers and Algae	-
20	16.09.2014	Prof. M.M. Sharma	Reminiscences of a career	-
21	29.09.2014	Bala Subramaniam	Resource-Efficient Catalytic Technologies for Emerging Feedstocks	The Dow Professor M.M. Sharma Distinguished Visiting professorship in Chemical Engineering
22	15.12.2014	Dr. Nejat Rahmanian	Seeded Granulation	K.J. Somaiya Visiting Professorship
23	21.01.2015	Prof. P.Somasundaran	Structure Property/Performance Relationships for Synergy and Antagonism New possibilities of greener chemicals for sustainable and benign consumer products	Dr. Balwant S. Joshi Distinguished Visiting Professorship
24	10.2.2015	Prof. Mohan Karmarkar	Practical Reactor Design	-
25	20.08.2015	Dr. Surendra U. Kulkarni E-301 Mantri Woodlands, Bannerghatta Road,Bangalore-560076	Water - Technologies for its security in future	Professor R.A. Rajadhyaksha Memorial Lecture
26	28.08.2015	Dr. Madhukar Rao	Green Polymer Technology for Coatings Applications: An Innovation Story from Ideation to Commercialization"	Golden Jubilee Visiting Fellowship
3 27	04.09.2015	Mr. Ahmet Üzümcü Director-General, Organisation for the Prohibition of Chemical Weapons (OPCW)	Ionic Liquids in Industry	
28	21.09.2015	Prof. Pradeep B. Deshpande Professor Emeritus of Chemical Engineering, University of Lousville & President, Six Sigma and	Profound Implications of Minimum Variance Control"	Golden Jubilee Visiting Fellowships Fellow

		Advanced Controls, Inc.		
29	29.08.2016	Prof. Bipin Vora Consultant and R & D Advisor UOP/Honeywell Fellow (Retired) AICHE Fellow,1324 Kallien Avenue, Naperville, IL 60540	"From Concept to Commercialization	The Dow Prof. M.M Sharma Distinguished Visiting Professorship in Chemical Engineering
30	18.01.2016	Prof. Doraiswami Ramkrishna Harry Creighton Peffer Distinguished Professor School of Chemical Engineering Purdue University	Analysis of Bioprocesses. Dynamic Modeling is a Must	Professor B.D. Tilak Visiting Fellowships
31		Dr. Gautam G. Yadav Energy Institute, City College of New York, New York	Advanced Alkaline MnO2-Zn Batteries: Accessing the Second Electron Capacity	Golden Jubilee Visiting Fellowship
32	01.02.2016	Prof. G.V. Reklaitis School of Chemical Engineering NSF ERC for Structured Organic Particulate Systems, Purdue University Wet Lafayette IN	Recent Advances in Continuous Pharmaceutical Manufacturing	Professor B.D. Tilak Visiting Fellowships
33	22.03.2016	Prof. Rajagopalan Srinivasan Indian Institute of Technology Gandhinagar Vishwakarma Government Engineering College Complex, Chandkheda, Visat-Gandhinagar Highway, Ahmedabad, India	Cognitive Engineering for Process Safety: Quantifying the Building Blocks of Human Error	Dr. G.P. Kane Visiting Professorship in Chemical Engineering
34	10.11.2016	Prof. Zhou Weibiao Professor & Director, Food Science & Technology Programme, National University of Singapore	Designing advanced control systems for modern bread-making process: from dough freezing to bread baking"	Professor Arun Mujumdar Distinguished Visiting Professor
35	24.11.2016	Mr. S.Ganapathy, M.S., FIE Chartered Engineer & Project Consultant	Status of Chemical Industries in India & Job Prospects	
36	14.12.2016	Prof. Wilhelm Höflinger Krems/Lower Austria, Austria	1) Fundamentals and measurement of particles Characterization of particle systems 2) Particle size measurement methods Optical imaging methods	Professor B.D. Tilak Visiting Fellowships

37	23.12.2016	Prof. Vikramaditya G. Yadav Assistant Professor in Department Of Chemical & Biological Engg. University of British, Columbia	Building Brains: Marrying Engineering & Medicine in the Fight Against Alzheimer Disease	Shri G.M. (alias Dada) Abhyankar Memorial Distinguished Fellowship in Chemical Engineering
38	13.01.2017	Prof. Daniel G. Nocera Chemist & leading Researcherin renewable energy	Fuels to Food from Sunlight, Air and Water	Shri V.V. Mariwala Visiting Professorship in Chemical Engg
39	21.01.2017	Dr. Rajender S. Varma United States Environmental Protection Agency	Greener routes to Organics and Nanometerials: Sustainable Applications of Magnetic Nanocatalysts and Modified Graphitic Carbon Nitrides in Catalysis and Environmental Remediation	Shri K.J. Somaiya Visiting Professorship in Chemical Engg.
40	25.01.2017	Dr. Ajay Kumar Dalai Professor of Chemical Engineering University of Saskatchewan, S K Canada	Novel Activated Carbon Materials Development for Various Industrial Applications	Smt. Kusumben and Shri Mathradas Kothari Visiting Professorship In Chemical Engg.
41	01.02.2017	Prof. Sivaram Arepalli Department of Chemical and Biomolecular Engineering, Rice University, Houston, TX	Status and Future of Nanomaterials in Energy Storage	Golden Jublee Visiting Fellowship
42	23.02.2017	Mr. Dilip Kapasi, Lead Process Engineer Project Management, LNP Projects, United States	Status of LNG, Regasification plants w r t India * Deepwater gas exploration - topside/MEG * Role of a chemical engineer in today's India * ICT- our strongest Instituion from a vantage point	Golden Jubilee Visiting Fellowship In Chemical Engg
43	18.04.2017	Dr. Mugdha Gadgil Sr. ScientistNational Chemica l Laboratory, Pune	Recombinant biopharmaceuticals: from choosing the best clones to m anaging product quality	Professor R.A. Rajadhyaksha Memorial Lecture series Endowment in Chemical Engineering
44	18.07.2017	Prof. Amol V. Janorkar Biomedical Materials Science, School of Dentistry University of Mississippi Medical Centre, Jackson, MS, USA	Multifunctional Biopolymer Coatings and Scaffolds for Tissue Engineering and Drug Delivery	Golden Jubilee Visiting Fellowship
45	02.08.2017	Prof. Doraiswami Ramkrishna H.C. Peffer Distinguished	Modeling Transfer of Antibiotics Resistance among Bacterial Species	Dr. Balwant S. Joshi Distinguished

		Professor, Purdue University West Lafayette, USA		Visiting Professorship in Chemical Engineering/Chemical Technology/Applied Chemistry
46	07.08.2017	Professor Upal Ghosh Associate Editor, Environmental Toxicology and Chemistry ,Department of Chemical, Biochemical, and Environmental Engineering, University of Maryland Baltimore County Technology Research Center. Rm 257,5200 Westland Blvd Baltimore, MD 21227	Remediation of Polluted Sediments by Controlling Bioavailability	Golden Jubilee Visiting Fellowship
47	14.08.2017	Professor Rajesh Shende Associate Professor of Chemical Engineering Department of Chemical and Biological Engg South Dakota School of Mines and Technology Rapid City, South Dakota 57701	Advanced Nanomaterials for Hydrogen and Biofuels Production	Golden Jubilee Visiting Fellowship

44. List the teaching methods adopted by the faculty for different programmes.

(a) Black board usage

(b) Power point presentations

(c) Student seminars

(d) Quizzes

(e) Animations/Videos

45. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Department has also adopted NBA accreditation procedure for continuous monitoring of programme objectives and outcomes. The relevant information is always updated and reviewed for corrective actions.

46. Highlight the participation of students and faculty in extension activities.

1) Science Day celebration (in March, every year)
2) 5th International Workshop on crystallization filtration and drying, April 14-15, 2011
3) '17th International Ozone Day' on 16th September 2011 in ICT with collaboration with Maharashtra Pollution Control Board, Government of Maharashtra.
4) 6th International workshop on Crystallization, Filtration, Drying, Milling and Granulation (16th to 18th February 2012)
5) "Chemference 2012" organized by Department of Chemical Engineering of ICT in collaboration with IIT-Bombay, December 2012
6) OYCE 2013, Event of IIChE Mumbai Regional Center organized in collaboration with ICT, Mumbai, April 2013
7) 7th International workshop on Crystallization, Filtration, Drying, Milling and Granulation (21st February to 23rd February 2013)
8) Indo-US Workshop "Biofuels and Bio-products", March 2013
9) IIChE Chemical Engineering Congress, Chemcon 2013
10) 8th International workshop on Crystallization, Filtration, Drying, Milling and Granulation (27-28 February and 1st March, 2014)
11) Waste resource management of chemical and allied industries (7-8 November 2014)
12) 9th International workshop on Crystallization, Filtration, Drying, Milling and Granulation (26-28 February, 2015)
13) Annual International Ozone Day Celebration
14) 10th International workshop on Crystallization, Filtration, Drying, Milling and Granulation (February 2015)
15) 11th International workshop on Crystallization, Filtration, Drying, Milling and Granulation (March 2016)

47. Give details of "beyond syllabus scholarly activities" of the department

a) Undergraduate summer research program
b) Young Innovator's Choice Competition –Young Researcher's Conference (YICC-YRC) (Every year)
c) Exergy - (Every year)
d) Vortex – (Every year)
e) Organization of Marathon (Every year)

48. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

Both the programmes have been accredited by NBA up to 30-06-2022 and 30-06-2021 for UG and PG respectively. (UG: File no. 28-301-2010-NBA, letter dated 27-12-2016, PG: File no. 28-301/2010-NBA, letter dated 28-09-2016)

49. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Department of chemical engineering is actively engaged in basic and applied research. The department is rated as the best chemical engineering department in India in terms of quantity and quality of research. The average number of publications in peer reviewed international journals is about 110 every year. Many of the faculty members are fellows of Indian National Academies related to Science and Engineering. A large amount of funding generated through research projects and new projects approved by industries and government agencies and industrial consultancy. Faculty members are actively engaged in consultation activity and are helping industries to improve the productivity as well as bring down the cost of production. The department has developed many novel processes, catalysts and products which are used in industry and atomic energy sector at commercial scale. The department has also taken up many activities related to rural development as well as activities of social relevance such as cleaning of Rankala lake in Kolhapur, use of solar energy in food product drying and preservation, technologies utilizing biomass, development of energy efficient cooking devices, solar thermal refrigeration systems, etc. The department is also engaged in research activities of basic science such understanding of turbulence phenomena, solvent ligand interaction using molecular modeling and quantum calculations, development of thermodynamic models, identification of reaction pathways and mechanism etc.

50. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength

Faculty take part in administrative affairs

Good interpersonal relationships

Dedicated staff who have put in many years of service at UICT

Decentralization of responsibility among faculty

Cloud based M/s System

Good analytical and computational facilities

Funding from various sources for buying sophisticated instruments

Easy accessibility and independent use of instruments and equipments

Competent, dedicated faculty

Diverse Areas of expertise of the faculty

Faculty have high degree of interaction with industry

Faculty Help UG/PG students in academic matters: e.g. jobs, fellowships abroad, PDF's

Faculty Help UG/PG in non-academic matters at personal level

Faculty members are experts in respective fields at national / international level

Faculty members are actively involved in research and act as consultants to industry

Faculty members have sponsored research projects from Govt. as well as private industry

Renovation of labs in progress

Student chain to maintain equipment's

Skilled personnel in workshop and CE lab

Clean and fresh environment

Well maintained gardens

Silent place to work

Good CE conference room

Good mix of students from various communities

Centralized security system

Weakness

Insufficient Lab staff due to unfilled posts

Computers maintenance staff inefficient

Inadequate lab space

Lack of glass blowing facility

Few students are comfortable with one's guide but face difficulty while approaching others

Interaction between faculty members of different departments needs improvement

Computer maintenance service poor in response

Cleanliness and safety taken lightly by students

Poor ventilation in some laboratories

Canteen food quality can be improved

51. Future plans of the department. The department wants to expand research activities in new areas and would like to establish and/or participate in centre of excellences in various thematic areas.

The department wants to expand research activities in new areas and would like to establish and/or participate in centre of excellences in various thematic areas.

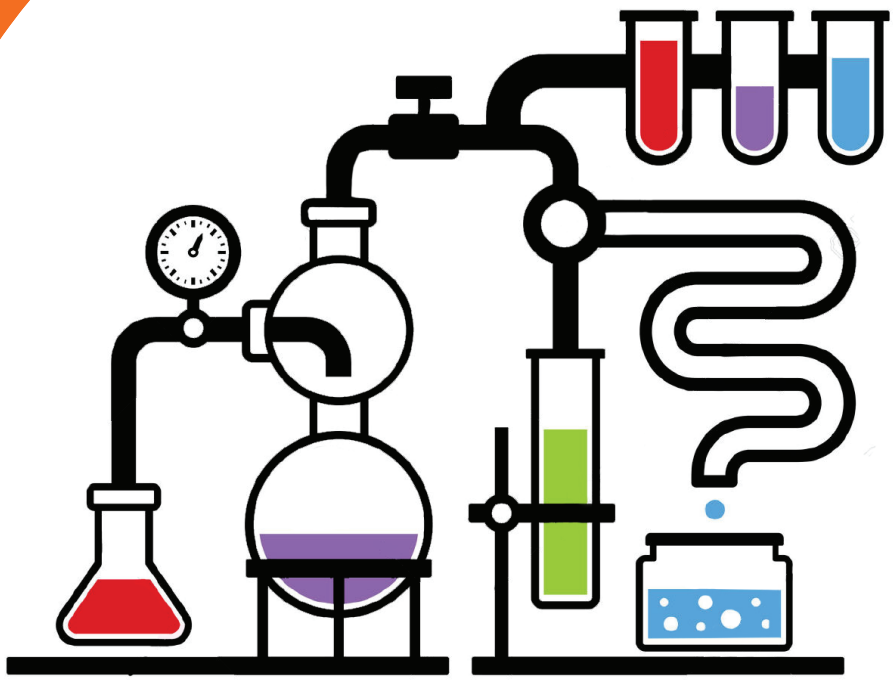
(A) The department has plans to expand the facilities such as Porometer, LCMS, FESEM, XPS, 600 MHz NMR as well as replace old GCs', HPLCs', TOC, TGA, liquid nitrogen plant.
(B) We intend to have 50 Ph.D. students each year as compared to the existing 25.
(C) Department also has planning to start M. Chem. Engg. Degree course with Specialization in (a) Biochemical Engineering (b) Sustainability Engineering (c) Process modeling and simulation and (d) Energy engineering

New research areas/centre proposed in near future:

(a) Process Instrumentation,
(b) Industrial crystallization,
(c) Particle Technology,
(d) Centre for Natural Products
(e) Advanced materials,
(f) Energy engineering

The chemical engineering department of ICT has lion's share in the first generation entrepreneurs, since the inception of the Institute. Out of over 600 first generation entrepreneurs of ICT, almost 50% are from Chemical Engineering Department. However, these developments took place due to certain locational advantages of Mumbai, such as being close to harbour or being an international trade centre. The entrepreneur development cell is being proposed to promote the spirit of techno-entrepreneurship in a bigger way. This will catapult ICT into the world stage as Stanford of East.

CHEMISTRY DEPARTMENT



CHEMISTRY DEPARTMENT

The Department of Chemistry was established in 1951with the vision of being "A nationally recognized chemistry resource centre, making noteworthy academic contributions within the Institute and also to local and national educational programmes, and undertaking contemporary and relevant research". The Department has come a long way since its inception and the fact that its academic and research programmes are recognized nationally (DST FIST, UGC SAP, etc.) and internationally (RSC accreditation) are testimony to the quality of academic output.

The Department has a dedicated team of faculty members, support staff and students who have contributed in achieving high academic standards. At present, the teaching staff of the Department consists of three Professors, one Associate Professor and four Assistant Professors (including one UGC FRP faculty member) in addition to three temporary appointments through the various government funding schemes such as DST INSPIRE faculty award and Ramanujam fellowship. The eleven members of the support staff are all appointed through the regular positions sanctioned by the government. Additionally, there is one tutor who is appointed on an ad hoc basis to assist with the teaching.

The Department currently offers a two year M.Sc. Chemistry programme with an annual intake of twenty students per year. The students are selected on the basis of a written entrance test conducted by the Department. The programme consists of several core and elective courses focusing on different aspects of Chemistry and Chemical Engineering. The syllabus of the programme is regularly upgraded in order to incorporate the latest developments in the field of Chemistry based on the feedback of the students, alumni and external experts. The main objective of the M. Sc. programme is to make the students well versed in the fundamental concepts of the subject while introducing them to the latest developments in chemical research. One of the highlights of the programme is the six month research project that the students are expected to undertake during the final semester of the programme. The fact that this programme was accredited by the Royal Society of Chemistry is testimony to the academic quality of the programme, given the fact that the only other Institute to have this honour in India is IISER, Pune.

The Department also offers a Ph. D. (Science) programme, admissions to which are based on the Ph. D. entrance test conducted by the Department. At present, the Department has about seventy students registered for the Ph. D. programme. Most of the students are supported with

fellowships from various government schemes while some students are funded by the industry. The students are expected to complete a mandatory course work as a prerequisite criterion for registration. The Ph. D. students get an opportunity to work on emerging areas in the field of Chemistry and are encouraged to share their research with the wider scientific community through publications and oral / poster presentations.

In addition to the two programmes mentioned above, the Department regularly contributes to other programmes conducted by the Institute. It conducts numerous theory and practical courses for the first year undergraduate programmes (B. Tech., B. Pharm. and B. Chem. Enng.) as well as for the M. Tech. porgrammes.

The Department has three undergraduate laboratories and five research laboratories. Moreover, there are three central instrumentation rooms which are well equipped with numerous analytical instruments like GC, GCMS, UV-visible spectrometer, IR spectrometer, potentiostat, DSC – TGA, etc. available to the students for their research work. In addition, the Department has an advanced facility for material characterization funded by DST Nanomission. The Department also has a computational laboratory facility dedicated to the students. The Institute library is well equipped with most of the subject books and resources relevant to the students of the Department.

The main areas of research include organic synthesis, catalysis, green chemistry, nanoscience, interfacial chemistry, electrochemistry, mechanistic studies and computational chemistry, to name a few. At present, the academic activities are funded by various government programmes such as DST FIST and UGC SAP DRS Phase – II funding. In addition, the faculty members are encouraged to apply for projects and individual grants to generate resources for research. Some of the major agencies currently sponsoring individual research grants in the Department include DST (Nanomission, INSPIRE, etc.), DBT, DAE, SERB, etc. Furthermore, the faculty members of the Department carry out many collaborative projects with industry in order to generate ideas and methods that can be applied for the improvement of chemical technology.

The Department regularly organizes various conferences, workshops and seminars in order to boost scientific exchange of ideas. The Department recently conducted Chem Careers in collaboration with Royal Society of Chemistry. A Workshop on “Applications of Electrochemistry in Photo Voltaic Devices, Nanotechnoloy and Energy Research’’ was

arranged on 16th March 2015 in collaboration with Metrohm Inc. The Department regularly conducts workshops on laboratory safety for students as well as staff members of ICT with the aim of creating a general awareness about common laboratory safety issues. The Department invites experts from the academia and industry as speakers to deliver endowment lectures. Some of the endowment lectures organized annually by the Department are supported by B. D. Tilak endowment, G. D. Gokhale endowment, CMP endowment, Spinco Biotech endowment, Golden Jubilee Visiting fellowship, etc. The annual fest organized by the M Sc. and Ph. D. students of the Department – Rasaynam – is a much awaited intercollegiate event.

In future, the Department plans to expand the current research expertise by incorporating expertise from various contemporary areas of research such as nanoscience, bioorganic chemistry, materials chemistry, computational chemistry, theoretical chemistry and to develop research facilities to meet international standards with respect to analytical facilities, lab facilities, etc. It also intends to develop the M.Sc programme further in terms of increasing the intake of M. Sc. students and collaborating with reputed Universities in India and abroad to improve the academic standards. One of the important goals of the Department is to increase its outreach by continuing and increasing its contribution in worthy national academic programmes like Chemistry Olympiad, NIUS, teachers' training, KVPY, etc. The Department aims to excel in its contributions to the Institute and to the society by achieving and sustaining globally recognised standards of merit.

REPORTS OF SEMINARS/WORDHOPS/SYMPOSIA ARRANGED BY DEPARTMENT OF CHEMISTRY

Academic year 2012-13

One day Indo-Japan conference on "Catalysis -A Green Chemistry Approach"

The Department organized a one day Indo-Japan conference on **"Catalysis -A Green Chemistry Approach"** on 13th February2013 at ICT. The conference was organised under the auspices of the UGC-SAP programme of the Department and also partly funded by the TEQIP-II programme of the Institute. Dr. Takehiko Sasaki form University of Tokyo, Japan and Masayuki Shirai of National Institute of Advanced Industrial Science and Technology, Japan and several eminent scientists form Industry and academic Institutes of India delivered lectures to about 120 participants. The talks were followed by a poster session in which young researchers of ICT and other Institutes presented their research work. The valuable comments by the participants enthused the researchers to make their research progarmme more meaningful and organized.

Indo-Japan conference on "Catalysis -A Green Chemistry Approach"

Poster session for Indo-Japan conference on "Catalysis -A Green Chemistry Approach"

Indo-German conference "Green Catalysis for Sustainable Development"

The 2nd International Indo-German Symposium was organized with "Green Catalysis for Sustainable Development" as the focal point. Overall 20 scientists from Germany and 25 from India took part along with a sizeable representation by research students from all parts of the country. The event took place under the aegis of the Department of Science and Technology, India, and Federal Ministry of Education and Research, Germany. It was organized through joint efforts of the Institute of Chemical Technology, India, and Liebniz Institute for Catalysis, Rostock, Germany, on the 29-31 October 2012 at Holiday Inn, Mumbai.

Over 40 oral presentations including 6 plenary, 17 keynotes and 17 invited orals were presented during this symposium. There was a poster session which included 75 posters. The subjects covered included original contributions in the areas of catalysis, green chemistry and renewable resources. There were several other interesting lectures on various topics like photo-catalytic C-H activations, carbon nanotubes, nanomaterials, renewable chemicals for biopolymers, use of Cu in glycerol hydrogenolysis, Use of ionic liquids in catalysis and many more. Various reactions like acetoxylation of styrene, oxidative dehydrogenation of ethane, one-pot synthesis of propargylamines using gold nanoparticles, valorization of renewables by oxidation with gold

catalysts, ammoxidation of 2-methylpyrazine, hydrodecyclization of multi-ring naphthenes, carbon dioxide on electro-catalytic surfaces were also covered.

Workshop on Communication and Interview Skills by Mr. Sudhir Shah

A full-day workshop on Communication and Interview skills by Mr. Sudhir Shah, Management consultant, Naipunyam, was organized for the benefit of our M.Sc (First and Second year) students on Saturday, 20th April 2013. The workshop was from 10.00 a.m. to 6.00 p.m. in the Venkataraman Auditorium. The students were requested to bring with them their biodata and possible expectations about their job.

Dr. Sudhir Shah in the Workshop on Communication and Interview Skills

Mr. Shah elaborated on the interview skills. He explained how to prepare good and effective curriculum vitae, and how to organize the various documents needed. Communication skills were elaborated in detail with demonstrations and interactive sessions. Five major components of communication skills – listening, understanding, reverting, language, and body language - were elaborated. Body language was given due emphasis in order to make the presentation effective and also to understand the person we converse with. Language skills were elaborated. Common mistakes done in spoken and written English were presented. Mr. Shah explained various aspects of personality and emphasized the importance of positive approach.

Some Assignments were given to the students to assess their personality. Some tests were also conducted for self-evaluation. The concept of brain mapping was introduced and its importance in

career was explained. There was one hour open house session, in which the students asked questions to the resource person and he answered them satisfactorily.

Laboratory Safety Workshops for laboratory staff and Ph.D. Students

A crucial component of chemical education is to nurture the basic attitude and habits of prudent behavior in the laboratory. Safety is an inseparable part of all laboratory activities. With this consideration, the Department of Chemistry, under the auspices of TEQIP, conducted two 'Workshops on Laboratory Safety', on 19th March for Laboratory Staff and on 20-21 March 2013 for the Ph.D. Students of the Institute.

(1) Laboratory safety Workshop for Laboratory Staff, 19th March 2013

Around 45 participants from all the departments of ICT attended the workshop. Few participants from local colleges were also allowed to attend the workshop. It was conducted in Marathi and Hindi. Prof. B.M. Bhanage welcomed the participants. Vice Chancellor Prof. G. D. Yadav inaugurated the workshop and also addressed the participants. Prof. S.D. Samant, discussed General Safety norms and precautions which should be taken while working in the laboratory. Mr**.** Suresh Jadhav, an environmentalist gave a presentation on Case Studies in Laboratory Safety. Prof. Radha Jayaram, explained the use of Personal Protective Equipments. Dr. Sadhana Sathey talked about Toxicity of Chemicals and safe handling of Chemicals. Prof. B.M. Bhanage explained about Storage and transportation of chemicals. He also explained handling of gas cylinders. Dr. Jayashree Nagarkar explained about Fire and how to extinguish it. Mrs. Prerana Goswami talked about Electrical safety. Mr. Rupesh Gaikwad conducted the session on First aid Issues and transportation of casualties**.** Fire Fighting Demonstrations were arranged. A safety handbook in Marathi was given to the participants.

Laboratory safety workshop for laboratory staff

(2) Workshop for Ph.D. Students

120 participants from almost all the departments attended the Workshop. The workshop was inaugurated by Prof. G.D.Yadav, Vice Chancellor, ICT. He discussed. Prof. V.V.Mahajani gave a presentation on Chemical safety**.** Biosafety was discussed by Prof. Deepti Deobagkar**.** Prof. Radha Jayaram explained the use of Personal Protective Equipment She also talked about Hazard Management. 'How to make my lab a safe workplace' was a topic discussed by Mr. Suresh Jadhav. Dr Vijay Bhujale discussed the 'Safe Practices in Laboratory during Research and Process Development Stage'**.** The lecture cum demonstration on 'First Aid Issues and Transportation of Casualties' was conducted by Mr. Rupesh Gaikwad. Prof. M..Keravala discussed the aspect of Safety with respect to electricity. Prof B.M.Bhanage explained the Safety Measures to be followed while carrying out the High Pressure Reactions**.** Prof. S.D. Samant highlighted the importance of storage and compatibility of Chemicals. Waste Management was covered by Dr. Mrs. J. M. Nagarkar. Dr. Vijaykumar talked about Toxicity of Chemicals. Fire Safety covered by Dr. Mrs. J.M. Nagarkar**.** At the end there was a firefighting demonstration arranged by Mr. Datta Kamble. An examination based on the course was conducted at the end. A book on 'Laboratory Safety' was given to the participants.

Laboratory safety workshop

NET/SET Orientation workshop

In order to give orientation to NET/SET examinations to the Masters and doctoral students working in the Department a NET/SET workshop was organized on 9th and 10th May 2013. The lectures were given by the Ph.D. students who have cleared the NET examination. About 50 students participated in the workshop. The following students gave lectures -

Mr. Kirtikumar Badgujar, Mr. Druman Uteka, r Mr. Radhesham Shelkar, Mr. Subhash Yedge, Mr. Rajendra Mane, Mr. Anand Bhurage, Mr. Nanabhau Karanjule, Mr. Balaso Jadhav, Mr. Adil Khatri, Mr. Sandeep Gadge, and Mr. Nilesh Korgaonkar.

Workshop on "Green and Sustainable Technology" and SERB Task Force Meeting on Green Chemistry

The 1-Day Workshop on "**Green and Sustainable Technology**" and **SERB Task Force Meeting on Green Chemistry** was held at Institute of Chemical Technology on 11th May 2013.This conference was a unique conference first of its kind based on the lateral thoughts to bring the interaction between industry and academics. Many personnel from reputed industries have presented their problems, existing hurdles and how technology is emerging in the present context with respect to emphasis on Green and Sustainable Technologies. The need and thrust for such high end processes, their importance and outcome in the present scenario of changing global

economic situation was well debated and discussed in the conference. This conference included the task force meeting which took place after the workshop.

The following DST Task Force Committee members and Invitees were present. Prof S. Chandrasekaran, IISc, Bangalore; Dr P.K. Ghosh, CSMCRI, Bhavnagar; Dr B. Gopalan, Orchid Pharma Ltd, Chennai; Dr R.V. Jasra, Reliance Industries Ltd, Hajira; Dr B.C. Ranu, IACS, Kolkata; Dr Sujit Roy; Dr R. Brakaspathy, DST; Prof. P. Selvam, IIT, Chennai; Dr. R. R. Bhattacharjee, PSG Institute of Advanced Studies, Coimbatore; Dr. Jyotirmayee Dash (IACS Kolkotta); Dr. Rajib Kumar Goswami (IACS Kolkotta); Dr. Joyram Guin (IACS Kolkotta); Dr. DebabrataMaiti (IIT Mumbai); Dr. C. V. Rode, National Chemical Laboratories, Pune; Dr. D. Srinivas NCL Pune Number of student participants were 50, Number of company participants were 43, and 25 academicians-ICT Faculty participated.

Chem Careers India 2012

Royal Society of Chemistry (RSC) India; Department of Chemistry, Institute of Chemical Technology, and the British Council, Mumbai, organized an event - **'Chem Careers India'** on 20th October 2012 at ICT. The event was organized for the benefit of the undergraduate and post-graduate chemistry students of Mumbai and nearby areas. The objective of the programme was to give an exposure to the wide range of career opportunities available. Several lectures of eminent scientists/ entrepreneurs were arranged. This was followed by expert advice on soft skills. 25 industries put up their stalls in the programme. About 900 students participated in the programme. The event helped the chemistry graduates / students to realize the relevance of chemistry in various industrial sectors and also helped them to identify the various career options available in the subject of chemistry.

CONTECH 2012

The concept test in Chemistry (CONTECH 2012) was conducted to test the basic understanding of Chemistry of undergraduate and postgraduate students was conducted by the Department in collaboration with the Association of Chemistry (ACT) on 1st December 2012. This test is conducted every year by the Department of Chemistry for last 5 years with very good response from students. This year 78 students appeared at this test. Mr.Shaaz Khatib, Mr.Partho Ghosh & Mr.Ashish Jayaraman secured first, second & third rank respectively. They were felicitated with prizes in the form of books and certificate at the Institute's Annual Day Function. Remaining participants who passed this test were also given a participation certificates.

RASAYANAM 2013

The Department of Chemistry, ICT, organized its 1st Chemistry-based festival, "RASAYANAM 2013" on the 5th and 6th of January, 2013. M.Sc. (Chemistry) students took initiative to organize the function. Around 150-200 participants from various colleges across Mumbai participated in the inaugural edition of RASAYANAM. It included 6 different events spanning across 2 days. Separate quiz competitions for undergraduates and post graduates, a comic theme based poster competition, an exhibition of not-so-often-seen chemical reactions, a forensic science based mystery solving competition and a treasure hunt with chemical clues were the events that took place. A Power Point presentation competition was included too. Certificates and the prize cheques were handed out to the respective winners on the 2nd day of the festival without any delay.

Academic year 2013-14

CONTECH 2014

The concept test in Chemistry (CONTECH 2014) was conducted by the Department in collaboration with the Association of Chemistry (ACT) on 18th January 2014, to test the basic understanding of Chemistry of undergraduate and postgraduate students. This test is conducted every year by the Department for last 6 years with very good response from the students; mainly UG students. Professor S.D. Samant coordinated this sctivity. About 100 students took the examination. Mr.Harshawardhan Shrivastava, Mr. Soham Shah & Mr.Omkar Bhatavdekar secured first, second & third rank respectively. They were felicitated with prizes in the form of books and certificate at the Institute's Annual Day Function. Remaining participants who passed this test were also given a participation certificates.

NET/SET ORIENTATION WORKSHOP

An orientation course for the CSIR/UGC – NET/SET exam was organized by the department on 25th and 26th February 2014. The workshop was funded by the TEQIP II. Dr. Kaustubh Joshi conducted this activity. It was open to the M.Sc. and Ph.D. students of the department of chemistry as well as other interested students from other departments. As many as 60 students registered, while few more last minute entries were accepted on the day of the workshop.

The basic theme behind the workshop was to create an opportunity for the CSIR-UGC aspiring students to interact with the Ph.D. students of the department who recently successfully cleared this exam. These students shared different tricks and trades of the exam which could prove useful to all the students while preparing for the upcoming competitive exam.

A series of lectures were conducted over two days spanning eight sessions, covering different topics in the area of chemistry known to be very important from the point of view of CSIR-UGC-NET examination. All the lectures were designed to be interactive in nature making the students to interact and get their queries right during the lectures.

Towards the end of the workshop, a one hour test on the lines of CSIR-UGC-NET exam format was conducted based on the topics covered during different sessions.

Mr. Abhishek Dubey, Mr. Samadhan Jagtap, Mr. Kirtikumar Badgujar, Mr. Gopal Dhangar, Mr. Nanabhau Karanjule, Mr. Vilas Jadhav, Mr. Sandeep Gadge, Mr. Nilesh Korgaonkar, Mr. Balaso Jadhav, Mr. Rajendra, Mr. Abhishek Tiwari, Mr. Subahash Yedage, Mr. Mahendra Patil, Mr. Ajay Ardhapure and Mr. Sachin Bhagade delivered lectures on various topics.

RASAYANAM 2014

Rasayanam 2014 was held on 3rd March 2014. 161 individuals from across 19 institutes of Mumbai participated in the event. Dr. A.R. Kapdi was the convenor. Gaikar was the Chielf Guest and inaugurated the event.

In the first session events like ‘What The Fun’, a refreshing out-of-the-box quiz competition exclusive to undergraduates and ‘The Pundits’ exclusively for postgraduates were organized. 32 teams of 2 students each participated in the ‘What The Fun’. 16 teams of 2 each had participated in ‘the Pundits’ event. This was a neck to neck competition and after around 2 hours of buzzers and questions and answers, the winners were declared.

After the Chem-Crossword solving elimination round, 6 teams made it to the finals. This event left everyone, including the finalists and the eliminated audience, happy, refreshed and with a little enhanced knowledge of Chemistry. This is what we call –‘Purpose Served’.

One of the main highlights of Rasayanam 2014 was ‘Rasayan Mela’. Stalls were setup for demonstrating rather interesting, colorful and full of knowledge Chemistry Experiments. This was indeed a crowd magnet, everyone from faculties to research scholars to participants to non-participants, wanted a glimpse of experiments being demonstrated.

In the second post-lunch session, a poster competition named, 'Chemdraw v2.0.1.4' was held for the 1st time in Rasayanam, which was a perfect blend of innovative art and chemistry put together. 11 teams of two each had participated in the event. Lastly 'ChemShod – The Treasure Hunt' an all innovative treasure hunt where all the clues were Chemistry based was conducted. The response for the event was so huge that the event had to done twice to accommodate as many participants possible. The uniqueness and the atmosphere generated by ChemShodh ended Rasayanam 2014 on a real high note, for both the organizers and especially the participants.

The whole event was conducted by the students of M.Sc. Chemistry, all 40 put together with the support of the Department of Chemistry.

CATSCHOL

"Catschol-2014", a chemistry research conference for research students was also organized by the department of Chemistry on the 4th of March 2014. In this event, posters and oral presentations were presented by the students of the department. Prizes were given to 2 best posters and to the best oral presentation. Mr. Kirtikumar Badgujar and Mr. Mahesh Edake were awarded first and second prizes respectively, for their research presentations.

Laboratory Safety Workshops for Ph.D. Students

The Department conducted a two-day Workshop on Laboratory Safety for the PhD students on 18th and 19th of March 2014, with the aim of creating a general awareness about common laboratory safety issues. The workshop focused on sensitizing the students towards potential hazards in a chemical / biochemical laboratory and providing them with the technical know-how to prevent and manage potentially dangerous situations. The workshop included lectures and interactive sessions by various experts from the academia and industry in addition to first aid and fire fighting demonstrations.

The workshop was organized under the auspices of Technical Education Quality Improvement Program – Phase II (TEQIP – II) and was also supported by the UDCT Alumni Association (UAA). Dr. J.M. Nagarkar was the convenor and Dr. Shaeddha Tiwari was the co-convenor of the workshop. As many as 124 students registered. The participants were provided with a manual on Laboratory Safety as a part of the registration kit, which was sponsored by UAA.

The inaugural session of the workshop was chaired by Professor B. M. Bhanage (Head, Department of Chemistry, ICT) and the workshop was inaugurated by Professor S. D. Samant (Department of Chemistry, ICT). Professor Samant gave an overview of the safety and related issues during his inaugural address and emphasized the importance of the various topics scheduled for discussion in the next two days.

The workshop began with a lecture on “Personal Protective Equipments” by Professor R. V. Jayaram (Department of Chemistry, ICT). This was followed by a lecture on “Laboratory Waste Management” by Dr. J. M. Nagarkar (Department of Chemistry, ICT). The two lectures were followed by an interactive session moderated by Dr. Anant Kapdi, wherein the participants shared their perspectives and experiences on laboratory safety issues. Dr. Prerna Goswami (General Engineering Department, ICT) discussed the importance of “Electrical Safety”. Shri. Vijay Bhujle (Intertek Industries and Visiting Faculty member, ICT) then delivered a talk on “Development of Safe Manufacturing Processes”. This was followed by a video demonstration “Safe Practices in R & D laboratory to achieve them” and the students actively participated in the interaction session after the demonstration. The participants were given hands-on training in the important skills of fire fighting through a demonstration on the Futsal ground of ICT. The fire-fighting demonstrations were conducted by Shri Dattaji Kamble (ICT).

Fire fighting demonstration during Laboratory Safety Workshop

The second day of the workshop commenced with a demonstration session on “First-aid in Lab Accidents” by Dr. Manjeet Singh (CPR trainer, Medical Consultant – Fortis Hospital). The participants were introduced to critical life-saving techniques in case of emergencies. The topic of handling hazardous chemicals was discussed by Dr. Anant Kapdi (Department of Chemistry, ICT) in the lecture titled “Handling Dangerous Chemicals” which also included a number of video clips. Professor Vandana Patravale (Head, Department of Pharmaceutical Sciences and Technology, ICT) focused on the physiological effects of chemical exposure in the lecture titled “Toxicity”. A lecture on the fire hazards and fire-fighting aspects was given by Shri Santosh Hule (Manager, HES, NOCIL). In the afternoon session, Professor V. V. Mahajani talked about safety scenarios in research laboratories and the industries in his lecture “Gambling Life in Laboratory”. The next lecture on “Handling High Pressures” by Professor B. M. Bhanage was focused on the management of gas cylinders and laboratory systems using high pressure conditions.

The participants’ feedback was taken during the concluding session. The feedback from the participants was very positive and encouraging. The participants also came up with proactive suggestions for improving the laboratory safety issues in the institute. Thus, the workshop was successful in not only creating a general awareness about safety issues, but also brought forth many suggestions from the student community.

A written examination was conducted based on the contents discussed during the workshop. The participants were awarded a certificate of participation upon successful completion of the workshop (based on their attendance and performance in the written examination).

Teaching Learning Workshop

A workshop on Teaching-Learning was organized on 28th and 29th March 2014 under the auspices of the TEQIP. The main objective of this workshop was to sensitize the participants with respect to the factors which affect the quality of science teaching-learning process. Professor S.D. Samant was the convenor.

The workshop was mainly for the ICT faculty and some teachers from colleges in Mumbai were also allowed to participate. 36 teachers participated. On 28th March the workshop was inaugurated by Professor G.D. Yadav, V.C., ICT. Professor V.G. Gaikar, TEQIP Co-ordinator, and Professor P.R. Vavia, Dean, Acad. Prog. addressed the participants. Professor Samant explained the idea of the workshop.

Professor Arvind Kumar (Formal Director, HBCSE), Professor H.C. Pradhan (Formal Director, HBCSE), Professor Vijay Singh (HBCSE), Dr. Chitra Natarajan (Dean, HBCSE), Professor Savita Ladage (HBCSE), Dr. Hemangi Bhagwat (K J Somaiya College of Science and Commerce), Dr. Vivek N. Patkar (Consultant), Mrs. Rita Doctor (ICT) and Mrs. Rekha Ramesh (Shah & Anchor College) gave lectures. The topics covered were History and philosophy of science -Implication for teaching, Research writing and publication process, Making science communication more effective, Measurement and evaluation in teaching, Socio-scientific issues: Role in teaching-learning, Relevance of science education to practicing teachers, Assessment: Design and Denouement, Learning in the laboratory, Communication beyond words, Teaching/Learning in digital era, Research writing and publication process Relation between teacher and taught-Psychological perspective, Aligning assessment to curriculum. At the end of workshop, a discussion was held regarding specific shortcomings in teaching and the ways to overcome them.

Academic year 2014-15

Laboratory Safety Workshop for Ph.D. Students

The Department conducted a one day Workshop on Laboratory Safety on 4th September 2014, with the aim of creating a general awareness about common laboratory safety issues. The workshop included lectures and interactive sessions by various experts from the academia and industry. The workshop was organized by Centre of Excellence in process intensification & Department of Chemistry. Dr. J.M. Nagarkar (Department of chemistry) was the convener and Dr. C. S. Mathpati (Department of Chemical Engineering) as Co-convener. The participants were provided with a manual on Laboratory Safety as a part of the registration kit. The workshop was inaugurated by Professor S. S. Bhagwat, Head, Department of Chemical Engineering, ICT.

The workshop began with a lecture on “Personal Protective Equipments” by Professor R. V. Jayaram (Department of Chemistry, ICT), followed by a lecture on “Laboratory Waste Management” by Dr. J. M. Nagarkar (Department of Chemistry, ICT), Dr. Shraeddha Tiwari talked about safe storage of chemicals and Mrs. Prerna Goswami (General Engineering Department, ICT) discussed the importance of “Electrical Safety”. Shri. Vijay Bhujle (Intertek Industries) then delivered a talk on “Development of Safe Manufacturing Processes”. The lecture on “Handling High Pressures” by Professor B. M. Bhanage was focused on the management of gas cylinders and laboratory systems using high pressure conditions. Shri Dattaji Kamble (ICT) also gave the information about various fire extinguishers. The participants’ feedback was taken during

the concluding session. The feedback from the participants was very positive and encouraging. The participants also came up with proactive suggestions for improving the laboratory safety issues in the Institute.

Workshop on "Applications of Electrochemistry in Photo Voltaic Devices, Nanotechnoloy and Energy Research''

A Workshop on "Applications of Electrochemistry in Photo Voltaic Devices, Nanotechnoloy and Energy Research'' was arranged on 16th March 2015 in collaboration with Metrohm Inc.

The workshop was planned with an objective of giving in-depth information about the latest techniques and applications in electrochemistry which will be beneficial for future endeavors.

The total participation was 76 in number which included M.Sc. Sem IV students from our Department and Ph.D students not only from our Department but also from other Departments of ICT. We also had a few participants from Ramnarain Ruia College. The workshop constituted of lectures and practical demonstration sessions. The pre-lunch session was based on the basic concepts of Electrochemistry and the post-lunch session was designed to emphasize various applications of Electrochemistry.

Rasaynam 2015

The annual intercollegiate chemistry festival, Rasaynam, organized by the Department of Chemistry, was started in the year 2013 by the M.Sc. batch of 2011 – 2013 under the leadership of Mr. Nilesh Shahi. In the last two years, it has attracted around 200 students (both Undergraduates and Post-graduates) from all across Mumbai.

Inaugural Ceremony

"Rasayanam", a fun-filled inter collegiate chemistry related event was held on 16^{th} and 17^{th} January 2015. Students from several local colleges participated in this programme. Events such as "The Mega Minds"-a chemistry quiz for post graduate students, " What is the Fun"- A chemistry and skill based quiz for under graduate students, "Chem Enigma"- an event based on crime scene investigation, "Chem Draw"- a poster presentation competition, "Chem Shodh"- a treasure hunt with chemistry based clues, "Rasayan mela"- with magic shows of chemistry experiments and exhibition experiments, and " Chem Housie"- A normal housie game with element symbol instead

of numbers, all were part of this programme and received over whelming response and appreciation.

The Inaugural ceremony started at 09:00 a.m. in the K.V. Auditorium. Dr. Shrikant Sakhalkar, ICT alumnus, was the Chief Guest for the occasion. The ceremony was blessed with the presence of the honorary Vice-Chancellor of the Institute, Prof. G.D. Yadav.

Dr. Kapdi, the convenor, welcomed the guests with a floral bouquet and addressed the audience with the introduction of Rasayanam. Our honorary Vice-Chancellor, Prof. Yadav spoke about the history of ICT and emphasized the importance of Chemistry in all walks of life. The Chief Guest for the occasion, Dr. Sakhalkar gave a small but inspiring talk about chemistry and strength of today's generation.

The ceremony ended with the Opening of Rasayanam by unveiling poster of Rasayanam by the dignitaries on the dais. Events conducted in the festival were The MegaMinds – A chemistry quiz for Post students, ChemEnigma – An event based on Crime Scene Investigation and forensic science, ChemDraw - a poster presentation competition, ChemShodh – a treasure hunt with chemistry-based -graduate students, What the Fun! - A chemistry and skill based quiz for the Undergraduate clues, Rasayan-Mela – magic shows of chemistry experiments and exhibition experiments, etc.

The closing ceremony of Rasayanam was held on 17th January, 2015 at 05:30 p.m. in the K.V.Auditorium. The Chief Guest for the occasion was Dr. Shrikant Sakhalkar, alumni of UDCT, who addressed the audience with a talk on 'A Pharma Perspective: 2020 and Beyond'. The talk gave an insight into the current status of pharmaceutical industries in India. The talk was followed by prize distribution in which the winners were awarded cash prizes, trophies and certificates. The participants were awarded with the participation certificates. The ceremony ended with the vote of thanks by the Chairperson of Rasayanam-2015, Ms. Neetha S. Bhat. Overall the participation for Rasayanam-2015 was about 400.

Academic year 2015-16

Royal Society of Chemistry ChemCareers – 2015 held at ICT on August 28th, 2015

The Royal Society of Chemistry (RSC) has been organizing workshops, roadshows and symposia throughout India. ChemCareers is one such event which brings to notice the varied careers open to graduates in chemical sciences. This gives an opportunity to graduate and post graduate students to explore career options. They also get a chance meet

professionals from Indian chemical companies. Graduates, post-graduates and PhDs from all leading institutes in Mumbai and nearby cities have participated in the event. About 200 students and 20 companies have participated in the event. It comprised of a key note speech by Dr. Sanjeev Katti of Reliance Industries Limited followed by interactive sessions and panel discussion. The afternoon session housed a workshop on writing skills,, network building for career advancement, personality improvement and guidelines for facing an interview.

Rasayanam - 2016

The annual intercollegiate event of the Department, Rasayanam, was held on January 15th and 16th 2016. The fair was a grand success with a spectacular participation of about 400 students from various colleges in and around the city of Mumbai. The event was ablend of lectures, quizzes, presentations and various other activities aimed at popularising the reach of chemistry in life society.

The inaugural address of Rasayanam was given by with Dr.Surendra Kulkarni, Former Site Head and Reserach Director, SABIC, Bengaluru. The event ended with prize distribution by Dr. Vinod Parab , LobaChemie who was the chief guest for the valedictory function.

Academic year 2016-17

Security Personnel Training Workshop

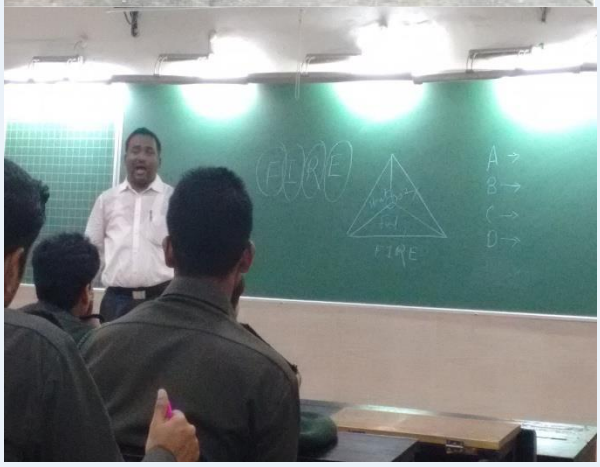
The Department of Chemistry conducted a workshop to train the security personnel of ICT under the auspices of TEQIP – II. The workshop was conducted on five weekends during July to August 2016. The concluding session of the workshop was held on 3rd September 2016. The workshop was intended for all the security staff members in ICT. The main focus of the workshop was training the ICT security personnel in various areas such as squad drill, preliminary self-defense skills, basic fire-fighting skills and leadership skills. In order to achieve this goal, the workshop consisted of lectures, interactive sessions and hands-on training sessions.

A total of 25 members from the security staff had registered for the workshop. Lt. RakeshBarai (Associated NCC Officer, Guru Nanak Khalsa College of Arts, Science and Commerce) and his team of NCC cadets conducted a number of squad drill and self-defense sessions. Lt. Barai also conducted lectures as well as interactive sessions on personality development. Special mention must be made of Shri VinodMohite, who was in-charge of the self-defense training and Shri Sukhraj Singh Riad, who supervised the squad drill training.The fire-fighting sessions were conducted by Shri SachinKhedekar (Chetana Foundation).Breakfast and lunch were provided to the participants.

At the end of the training, the participants were assessed through a written test. The participants were awarded with a certificate of participation based on their attendance record and satisfactory performance in the written examination at the concluding session. The concluding session was chaired by Hon' Vice-Chancellor Prof. G. D. Yadav, who commended the efforts of the security staff to enhance their skills while maintaining the security standards of the Institute and the resource persons for their contribution. Other dignitaries present at the concluding session included Prof. S. S. Lele (Registrar), Prof. B. M. Bhanage (Dean, ICD), Prof. P. R. Vavia (Dean, AP) and Prof. R. V. Jayaram (Head, Department of Chemistry). Participants' feedback was taken during the concluding session, both verbatim and in the written form.

The feedback from the participants was very positive and encouraging. The participants also came up with proactive suggestions for improving the laboratory safety issues in the institute.





Laboratory Safety – Pitfalls And Remedies

Inculcating awareness about the common hazards faced by chemists in the research laboratory and developing a working environment to prevent them, has been the priority of the Institute. Due to overwhelming response of the first workshop on Laboratory Safety, the Department of Chemistry conducted a two-day workshop titled “Laboratory Safety – Pitfalls and Remedies” on the 27th and 28th February 2017 under the auspices of TEQIP – II. The workshop was intended for the research students of all the Departments in ICT. The main focus of the workshop was to sensitize the students about the potential sources of environment / health hazards and the methods for preventing or minimizing the impact of such hazards. In order to achieve this goal, the workshop consisted of lectures, interactive sessions and hands-on firefighting and first-aid demonstrations.About 120 students who registered for the workshop.

The workshop was inaugurated by Prof. A. B. Pandit (Dean, HRD), who emphasized the need for a safe and sustainable working environment in the research laboratory. Prof. Samant gave a brief overview of the issues related to safety in a laboratory. He then introduced the participants to various aspects of safe chemical storage. This was followed by a lecture on “Development of Safe

Manufacturing Processes" by Shri Vijay Bhujle (GVS Cibatech Pvt. Ltd.) wherein he discussed the various aspects of achieving safe environment in a R&D laboratory.

The next session, began with a discussion on "Toxicity" by Dr. SadhanaSathye (Department of Pharmaceutical Sciences and Technology) which outlined the different parameters used for measuring toxicity and the long term impact. This was followed by a lecture on "Handling High Pressure Reactions" by Dr. YogeshWagh (USV Pvt. Ltd.) who shared his experiences and knowledge related to the hazards posed by high pressure setups in the laboratory. Shri Santosh Hule (NOCIL Ltd.) delivered a talk on "Fire Hazards" which discussed the firefighting basics in details. Shri Hule also utilized numerous case studies to drive the point home. The final session on the first day was the firefighting demonstration by Shri Hule and his associates. The hands-on training session was much appreciated by the participants of the workshop.

On the second day, the morning session began with a lecture on "Electrical Safety" by Dr. PrernaGoswami (Department of Electrical Engineering). Prof. R. V. Jayaram shared her expertise on personal protective equipment. Prof. J. M. Nagarkar spoke onvarious aspects of "Waste Management" in the laboratory. After the lunch break, the participants were trained in Biosafety aspects by Prof. S. K. Kale (DBT – ICT Centre for Energy Biosciences). Finally the participants were taught the basics of first-aid through demonstrations by Dr. RupeshGaikwad (MaharshiDayanand College of Arts, Science and Commerce). These included the basic practices of bandaging, transportation of sick people and other common accidental situations in the laboratory.

The workshop concluded with a written test and the feedback form. Participants' feedback was taken during the concluding session, both verbatim and in the written form. The valedictory session was chaired by Prof. Padma Devarajan (TEQIP Coordinator), who commended the efforts of the Department of Chemistry and requested the participants to incorporate the knowledge gained through the workshop in the routine lab practices. The feedback from the participants was very positive and encouraging.

Laboratory Safety Workshop / Conference

1) Laboratory Safety Workshop for research students organized on 1st and 2nd Sept. 2016.
2) Laboratory Safety workshop for research students organized on 27th and 28th February 2017
3) **A one day seminar series on "Science of Synthesis"** organized by Dept. of Chemistry and Theime Publishers 9th Dec. 2016. (Speaker: Guido Hermann): This event was organized for

faculty members and research students of ICT. The objective of this event was to educate researchers about new methods of literature search.

4) **A one day seminar series on "Microwave Assisted Organic Synthesis"** organized by Dept. of Chemistry and Anton Paar on 16th Dec. 2016 (Speaker: Prof. Oliver Kappe): This event was organized for the research students of ICT, also researchers from various other universities were also participated in this seminar series. Prof. Oliver Kappe discussed the applications of microwaves as well as green chemistry approaches in organic synthesis.

1. **Year of establishment** : 1951

2. **Is the Department part of a School/Faculty of the university?** No

3. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.)**
   a) M. Sc. (Chemistry) – Four semester post-graduate course
   b) Ph.D. (Chemistry)

4. **Interdisciplinary programmes and departments involved**
   M. Tech. (Green Technology) – an interdisciplinary programme of ICT

5. **Courses in collaboration with other universities, industries, foreign institutions, etc.-**
   NA

6. **Details of programmes discontinued, if any, with reasons:** NA

7. **Examination System: Semester**
   Semester based evaluation pattern, with elective courses in the last two semesters of M.Sc. programme

8. **Participation of the Department in the courses offered by other departments**
   Teaching theory and laboratory courses to
   A Bachelors in Technology (All branches)
   B Bachelors in Chemical Engineering
   C Bachelors in Pharmacy
   D M. Tech. (Green Technology)
   E Research Methodology (Ph. D. Science)

9. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

	Sanctioned	Filled	Actual (including CAS and MPS)
Professor	2	1	4
Associate Professors	3	2	0
Assistant Professors	5	4	4
Others			UGC FRP – 01 DST INSPIRE – 02 Ramanujam Fellow - 01

10. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	Experience (in years)	Ph. D. Students guided for the last 5 years
Prof. Radha V. Jayaram	Ph.D.	Professor in Physical Chemistry	Catalysis, Green Chemistry, Interfacial Chemistry	23	Completed: 09 Ongoing: 13
Prof. Bhalchandra M. Bhanage	Ph.D.	Professor in Industrial and Engineering Chemistry	Catalytic Science and Technology, Green Chemistry	12	Completed: 16 Ongoing: 23
Prof. Shrinivas D. Samant	Ph.D.	Professor in Organic Chemistry	Synthetic Organic Chemistry	34	Completed: 05 Ongoing: 07
Dr. Jayshree M. Nagarkar	Ph.D.	Associate Professor in Physical Chemistry	Physical Chemistry Catalysis, Green Chemistry	18	Completed: 04 Ongoing: 08
Dr. Anant	Ph.D.	UGC FRP	Organic	5	Completed: 00

Kapdi		Assistant Professor in Chemistry	Chemistry, Organometallic Chemistry		Ongoing: 11
Dr. Vijay Kumar	Ph.D.	Assistant Professor in Organic Chemistry	Homogenous and heterogeneous catalysis	4	Completed: 00 Ongoing: 04
Dr. Shraeddha Tiwari	Ph.D.	Assistant Professor in Inorganic and Physical Chemistry	Physical Organic Chemistry	3	Completed: 00 Ongoing: 04
Dr. Pavan More	Ph.D.	Assistant Professor in Microanalysis	Environmental Catalysis	1	Completed: 00 Ongoing: 00
Dr. Kaustubh Joshi	Ph.D.	Ramanujam Fellow	Computational Chemistry	3	Completed: 00 Ongoing: 02
Dr. Dipanwita Das	Ph.D.	DST INSPIRE Faculty	Inorganic Chemistry	3	Completed: 00 Ongoing: 04
Dr. Sanghamitra Chatterjee	Ph.D.	DST INSPIRE Faculty	Electrochemistry	2	Completed: 00 Ongoing: 03
Dr. Sudam Dawande	Ph.D.	Assistant Professor in Organic Chemistry	Organic Chemistry	2	Completed: 00 Ongoing: 01

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors

Name	Affiliation
Dr. Veena Khilnani	Department of Chemistry, K. J. Somaya College, Vidyavihar, Mumbai.
Dr. Tanuja Parulekar	Department of Chemistry, SIWS College, Wadala, Mumbai.
Mr.Abhimanyu Yadav	Department of Chemistry, G. N. Khalsa College, Matunga, Mumbai
Prof. N. D. Thakkar	Retired Professor, Institute of Science, Mumbai
Dr. Hemant Khanolkar	Department of Chemistry, Fr. Conceicao Rodrigues College of Engineering, Bandra, Mumbai.

Dr. Indraneel Chatterjee	Technical Consultant
Dr. Bipin Mehta	Retired Professor, Department of Chemistry, University of Mumbai
Mrs. Gomathi Shridhar	Department of Chemistry, V.K. Menon College, Mumbai
Mrs. Elizabeth Joseph	Department of Chemical Engineering, Thadomal Sahani College of Engineering, Bandra, Mumbai.
Dr. Lakshmy Ravishankar	Department of Chemistry, V.G.Vaze College, Mulund, Mumbai.
Dr. P. P. Tekale	Department of Chemistry, G. N. Khalsa College, Matunga, Mumbai.
Professor V. V. Mahajani	Retired Professor, Department of Chemical Engineering, ICT, Mumbai
Dr. Sandeep Sharma	BARC, Mumbai
Dr. P. K. Pujari	BARC, Mumbai
Mrs. Mahalaxmi Nadar	Department of Chemistry, SIES College, Sion, Mumbai.
Dr. Chitra Kamath	Department of Chemistry, K. J. Somaya College, Vidyavihar, Mumbai.
Dr. S. S. Mangaonkar	Department of Chemistry, Mithibai College, Vileparle, Mumbai
Dr. P. A. Sathe	Department of Chemistry, Ramnarain Ruia College, Maunga, Mumbai
Dr. D. Mandal	Materials Science Section, BARC, Mumbai
Dr.Gail Carniero	Associate Professor (Retd)., Sophia College, Mumbai

12. **Percentage of classes taken by temporary faculty – programme-wise information** M. Sc. (Chemistry) – 12.5 %

13. **Programme-wise Student Teacher Ratio**
    a) M. Sc. (Chemistry) – 4:1
    b) Ph. D. (Chemistry) – 7:1

14. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual**

	Sanctioned	Filled	Actual
Laboratory Assistant	04	04	04
Laboratory	06	06	06

Attendant			
Tutor (Ad hoc)	--	--	01

15. Research thrust areas as recognized by major funding agencies:

Catalysis, interfacial chemistry, new methods in organic chemistry

16. Number of faculty with ongoing projects from

a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Name of Funding agencies	Project Title	Duration	Amount Sanctioned (in Rs.)
Professor B. M. Bhanage			
Science & Engineering Research Board (SERB)	Studies in asymmetric catalysis for synthesis of enantiomerically pure amines and alcohols	2012 to 2015	37,00,000
Department of Biotechnology (DBT)	Enzyme immobilization and its application in supercritical carbon dioxide for synthesis of valuable compounds	2012 to 2015	24,00,000
Department of Science and Technology (DST-Nano Mission)	Study of catalytic activity of nanosize metals and metal oxides prepared by novel or conventional routes.	2012 to 2015	166,00,000
TEQIP-II INN Project	Development of Green and Sustainable Methodology for the Synthesis of	2015 to 2017	5,20,000

	Quinazolines and 1, 3, 5-Triazines.		
CoE-Process Intensification, TEQIP-II	Microwave, Solar Energy, Ultrasound assisted synthesis of metal oxide nano-materials	2015 to 2017	10,00,000
Professor Radha Jayaram			
TEQIP	Microwave assisted Bifunctional catalysis for Tandem Reactions	2014 to 2016	17,00,000
Department of Science and Technology post-doctoral research programme	Water bound polymers for adhesive applications	2015 to 2017	27, 83, 000
IGCAR, Kalpakkam, India	Synthesis of N,N-dialkyl-2-alkoxyacetamides extractants and N,N-dialkyl-2-alkoxyacetamides grafted resins for the separation of trivalent actinides from nitric acid medium and modeling of extractants	2015 to 2017	27, 16, 800
Dr. Anant Kapdi			
DST (Inspire Faculty programme)	Application of Palladacyclic Complexes in Synthesis	2012 to 2017	83,00,000
Department of BioTechnology	Synthesis and Cellular Evaluation of Novel Palladacyclic Complexes for Breast Cancer’	2015 to 2018	25,00,000
Alexander von Humboldt Foundation (Germany)	Multi-functional Nucleosides and Nucleotides via Palladium-Mediated Reactions Using Novel Palladacyclic Complexes with Promising Anticancer Activities	2015 to 2018	38,00,000
Department of Science and	Application of Palladacyclic Complexes in Synthesis	2012-2017	35,00,000

Technology			
Department of Biotechnology	'Synthesis and Cellular Evaluation of Novel Palladacyclic Complexes for Breast Cancer'	2015-18	25,00,000
Encore Pvt. Ltd.	Development of efficient processes for commercially useful drugs.	2015-17	10,00,000
	Dr. Vikay Kumar A.		
Department of Science and Technology (DST)	Organic Synthesis using Recyclable Metal and Carbon Catalysts.	2012 to 2017	35,00,000
DST-SERB	Immobilization of Chiral and Achiral Catalysts on benign Polymers coated Magnetic Nanoparticles for Organic Transformation	2016 to 2019	28,64,000
	Dr. Shraeddha Tiwari		
Department of Science and Technology (DST)	Investigating Reactivity and Selectivity of Organic Reactions in Liposomes as Model Protocells	2013 to 2018	35,00,000
Department of Science and Technology (DST)	Investigating Reactivity and Selectivity of Organic Reactions in Liposomes as Model Microreactors	2014 to 2017	16,98,000
DST-SERB	Invetigating reactivity and selectivity of organic reactions in liposomes as microreactor assemblies	2014 – 2017	16,98,000
DST-INSPIRE	Invetigating reactivity and selectivity of organic reactions in liposomes as model protocells	2013 – 2018	3500,000
	Dr. Kaustubh Joshi		
Department of	Efficient QM/MM approach for	2013 to 2018	33,00,000

Science and Technology (DST)	Protein/Ligand Binding Free Energies: finding inhibitors for novel cathepsin K, an Osteoporosis target		
DST/SERB	Efficient QM/MM approach for Protein/Ligand Binding Free Energies:finding inhibitors for novel cathepsin K, an osteoporosis target	2015 to 2017	25,00,000
DST/SERB	Efficient QM/MM approach for Protein/Ligand Binding Free Energies	2015 to2019	33,00,000
Department of Science and Technology (DST)	Efficient QM/MM approach for Protein/Ligand Binding Free Energies: finding inhibitors for novel cathepsin K, an Osteoporosis target	2013 to 2016	25,00,000

	Dr. Dipanwita Das		
Department of Science and Technology (DST)	Transition metal mediated catalytic two and four electron reduction of O2 : synthesis, structure-reactivity correlation and mechanistic insights by trapping intermediates	2013 to 2018	35,00,000
DST-SERB	Development of Promising Photochromic Metal Organic Frameworks with Functionalized Photo-switchable Groups	2015 to 2018	22,21,000

	Dr. Sanghamitra Chatterjee		
Department of Science and Technology (DST)	Nanomaterial Based Electrochemical Sensors for Biomedical Applications	2014 to 2019	35,00,000
	Dr. Pavan More		
SERB (DST)	Total oxidation of diesel engine exhaust and volatile organic compounds by using Cs and Mg doped MnxCe1-xO2-y and CuxCe1-xO2-y catalysts	2015 to 2017	45,59,000
SERB (DST	Complete oxidation of diesel engine exhaust and volatile organic compounds by using	2015 to 2018	56,32,567

	non-noble metal catalysts		
	Dr. Sudam Dawande		
DST-SERB	Design, Synthesis of O-Thioester Substituted N-sulphonyl-1,2,3-triazoles and Their applications in the Intramolecular Cyclization to Synthesize Benzo Fused Thioheterocycles.	2016 to 2019	20,30,000
DST-SERB	Ruthenium(II) catalysis in the C-6 Functionalyzation of Indoles: C-C and C-O Bond Formation	2017 to 2021	39,00,000

a) Number of ongoing projects from national funding agencies - 30

b) Number of ongoing projects from international funding agencies -01

c) Number of faculty with ongoing projects from national funding agencies –10

d) Number of faculty with ongoing projects from international funding agencies – 01

e) Total grants received – Rs.10,29,22,367

17. Inter-institutional collaborative projects and associated grants received

a) National collaboration -07 b) International collaboration -02

18. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

a) DST – FIST : Rs. 1,60,00,000 sanctioned

b) UGC SAP: Rs. 1,50,00,000 sanctioned

19. Research facility / centre with

- **State recognition** - NA
- **National recognition**: The teaching and research programmes of the department are continually supported by funding from programmes like DST – FIST and UGC SAP (DRS I and DRS II)
- **International recognition:**

  Royal Society of Chemistry Accreditation for M. Sc. (Chemistry) programme

20. Special research laboratories sponsored by / created by industry or corporate bodies: NA

21. Publications: (in the last five years)

* Number of papers published in peer reviewed journals (national / international)-362
* Monographs – Nil
* Chapters in Books – 20
* Edited Books – 03
* Books with ISBN with details of publishers - Nil
* Number listed in International Database (For *e.g.* Web of Science, Scopus, Humanities International Complete, Dare Database – International Social Sciences Directory, EBSCO host, etc.) – 362
* Citation Index – range / average: 699 to 5009
* SNIP – NIL
* SJR – NIL
* Impact Factor – range / average: Range – 0.3 to 38.6
* h-index: 126

Title of patent	Contributors	Details
Palladium-Catalyzed Carbonylative and Carboxylative CH Functionalization Reactions: Importance and Role of Regioselectivity in "Strategies for Palladium-Catalyzed Non-Directed and Directed C-H Bond Functionalization	P.Gautam,B.M. Bhanage:Anant KapdiDebabrata Maiti	Paperback ISBN: 9780128052549, Imprint:Elsevier, 2017
Synthesis and catalytic applications of magnetic nanoparticles Encyclopedia of Nanoscience and Nanotechnology	A.B. Patil, B. M. Bhanage*	25-Volume set)",American Scientific Publishers, 2016
Selection of Reaction Media S.T. Gadge, B.M. Bhanage* Chapter 6, pages 221-262, in Industrial Catalytic Processes for Fine and Specialty Chemicals	ISBN: 978-0-12-801457-8, Vivek Ranade and Sunil Joshi, by Elsevier Press	DOI: http://dx.doi.org/10.1016/B978-0-12-801457-8.00006-9 2016
An improved method for the synthesis of azobenzene from nitrobenzene and sodium hydroxide.	Sitaram H. Gund, Jayashree M. Nagarkar	Indian Patent Appl.,1421/MUM/2014, 2014.
Solar energy assisted synthesis of zinc oxide nanoflowers. 2015 India DST Nano-Mission	M.A. Bhosale, J.P. Ahire, S.A. Revankar, B.M. Bhanage	Indian Patent Application:1624/MUM/2015

A greener and efficient biocatalytic methodology for the synthesis of benzoate esters/compounds in supercritical carbon dioxide 2015 India DBT	K.C. Badgujar, B.M. Bhanage	Indian Patent Application:3199/MUM/2015
An efficient and greener enzyme catalyzed methodology for the synthesis of 2-propenoic acid, 3- phenyl-alkyl ester compounds in supercritical carbon dioxide media 2015 India DBT	K.C. Badgujar , B.M. Bhanage	Indian Patent Application: 3172/MUM/2014
Method of making a bionanomaterial and its application. 2016 India DST Nano-mission	M.S. Bhalerao, A.V. Patwardhan, M.A. Bhosale, B.M. Bhanage,	Indian Patent Application: 201621011953
Method for the synthesis of palladium nanoparticles using solar energy	A.B. Patil, K.M. Deshmukh, A.B. Pandit, B.M. Bhanage	Indian patent: 1842/MUM/2011
Improved process for the electrochemical synthesis of Palladium nanoparticles in ionic liquid as an electrolyte	K. M. Deshmukh, Z. S. Qureshi, K. D. Bhatte, J. M. Nagarkar, K. A. Venkatesan, K. Nagarajan, T. G. Srinivasan, P. R. Vasudeva Rao, B. M. Bhanage	Indian patent: 1978/MUM/2011
An Improved Process for the sulfonation of aromatic compounds using sulfuricacid under sonication	Z. S. Qureshi, K. M. Deshmukh, N. S. Nandurkar, B. M. Bhanage	Indian Patent No. IN 247765, (2011)
An improved method for benimidazole synthesis from 2-haloaniline, dihalomethane and sodium azide in presence of copper complex catalyst	S.R. Lanke, B.M. Bhanage	Indian Patent Appl., 2450/MUM/2013, 2013
Solar energy assisted synthesis of zinc oxide nanoflowers	M.A. Bhosale, J.P. Ahire, S.A. Revankar, B.M. Bhanage	Indian Patent Application: 1624/MUM/2015, 2015

Novel amino acid-zinc hydroxide hybrid nanomaterial and process of preparation thereof	M.A. Bhosale, J.P. Ahire, B.M. Bhanage	Indian Patent Application: 1623/MUM/2015, 2015
An Efficient Enzyme Catalyzed Methodology for Synthesis of Levulinate Esters Using Lipase and Supercritical Carbon Dioxide as a Green Biocatalyst and Solvent	K.C. Badgujar, B.M.Bhanage	Indian Patent Application: 3244/MUM/2014, 2014
Tetrazolinohydrazino pyrazolin-5-one, useful antibacterial molecule	Tiwari S., Pednekar, S., Kapdi, A. R.	Patent filed PCT. IND 2012
An improved method for the synthesis of azobenzene from nitrobenzene and sodium hydroxide	Sitaram H. Gund, Jayashree M. Nagarkar	Indian Patent Appl.,1421/MUM/ 2014, 2014
A simple, green oxidation of sulfide to sulphoxide compounds	Ravindra Wagh, J. M. Nagarkar	Indian 2708/MUM/2015

Income generated from patents: --

23. Areas of consultancy and income generated

The Department offers industrial consultancy in the areas of catalysis and organic synthesis. The income generated in the last five years – Rs. **25,55,493/**

24. Faculty selected nationally / internationally to visit other laboratories / institutions /industries in India and abroad

- Dr. Anant Kapdi selected for Alexander von Humboldt Return Fellowship (25th May 2013 to 25th July 2013) – Catalysis Research Centre, Technische Universitat Munchen, Germany
- Dr. Anant Kapdi - DAAD Fellowship for Scientists (2nd June 2014 to 15th July 2013) –Catalysis Research Centre, Technische Universitat Munchen, Germany

25. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Prof. B. M. Bhanage	Hon. Secretary , Catalysis Society of India (Mumbai Chapter) Member, Scientific Advisory Board, Indian Patent Office
	Resource Person, Maharashtra Public Service Commission
	Examiner and Resource Person to Indian Chemistry Olympiad since 2004
	Resource Person: Maharashtra State Bureau of Textbook Production and Curriculum
	Member, Editorial Advisory Board for The Open Acoustics Journal since 2007
	Member, Editorial Advisory Board for The Open Catalysis Journal, since 2008
	Member, Editorial Board, Catalysis Science & Technology (Royal Society of Chemistry Journal)
Prof. S. D. Samant	President, Chemistry Teachers' Association of India (2013-16)\ Member, Academic Audit Committee, Department of Chemistry, Goa University
	Member, Governing Council, Atomic Energy Education Society (AEES)
	Member, Paper Setting Committee, NEST
	Member, Internal Quality Assurance Cell, Ruia College
	Member, Syllabus committee, M. Sc. (Chemistry) programme, Centre for Excellence in Basic Science, University of Mumbai-DAE
	Member, Review committee, Chemistry Division, BARC (20th March 2015)
	UGC Nominee, UGC-SAP-DRS-II, Department of Chemistry,
	Goa University, Goa and School of Chemical Sciences, North Maharashtra University, Jalgaon
	Member, Syllabus Committee, M. Sc., Part-I (Organic Chemistry), University of Mumbai
	Member, Governing Council, Atomic Energy Education Society
	Member, National Steering Committee, Science and Mathematics Olympiad
	Member, Board of Studies, Chemical Sciences, NMIMS University
	Member, Moderation Board, Indian National Chemistry Olympiad
	Examination, 2011 (INChO-2011) on Undergraduate Science
	Resource Person, Orientation-cum-Selection camp for International Chemistry Olympiad, HBCSE, May 2011

Member, Panel of Juries, Best Chemistry Teachers Award of Tata Chemicals

Prof. R. V. Jayaram Fellow - Maharashtra Academy of Science

Office bearer – Catalysis Society of India, Mumbai chapter

Member – Precious Metals Committee, BIS, Government of India

Faculty member – NIUS programme, HBCSE, Mumbai

Member, Board of Examiners, Indian National Chemistry Olympiad (INChO)

Scientific committee member – 48th International Chemistry Olympiald, Tbilisi, Georgia

26. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Organization by Department:

- ❖ Teaching Learning Workshop, 2014

27. Student projects

- **Percentage of students who have done in-house projects including inter-departmental projects** – 100 %
- **Percentage of students doing projects in collaboration with other universities / industry / institute** – As per the programme guidelines, all M. Sc. students do in – house projects. Approximately 5 – 10 % of PhD students carry out collaborative research with other institutes

28. Awards / recognitions received at the national and international level by

- **Faculty**

Prof. B. M. Bhanage Fellow of the Royal Society of Chemistry, UK (FRSC)

Prof. M.M. Sharma Science and Technology Award (Rs 1 lakh and Citation) for contributions in research by Marathi Vidyan Parishad

Selected on Advisory Board on the RSC Journal "Catalysis Science and Technology

Awarded Bronze Medal for the contribution in the field of Chemical Sciences by Chemical Research Society of India (CRSI) on 5th Feb 2012 in RSC-CRSI symposium Trivandrum Kerala

	ISCMA Outstanding Professor Award by Indian Speciality Chemical Manufacturers Association for excellence in academic field for the year 2012. Fellow Award' of the "Biotech Research Society" for his research contribution in "Enzyme Technology". (2017) Best teacher award by Indian speciality Chemical Manufacturers Association
Prof. R V Jayaram	Best Woman Teacher Award (2015) – Association of Chemistry Teachers, India Resource person, Orientation-cum-Selection Camp for selecting Indian team for International Chemistry Olympiad Team Leader – 43rd International Chemistry Olympiad
Prof. S. D. Samant	President, Association of Chemistry Teachers (2013 – 2016)
Dr. J. M. Nagarkar	Fellow of Maharashtra Academy of Sciences (F.MASc.) Received "Expert Featured Research Article Honorarium" of $ 500 for an article entitled "Properties of vegetal oil based creams in skin care" the article was published in Cosmetics and Toiletries
Dr. Anant Kapdi	Biography selected in Marquis Who's Who in the World, 2014 DAAD Fellowship for Scientists (2nd June 2014 to 15th July 2014) - with Professor Moniek Tromp in Catalysis Research Centre, Technische Universitat Munchen, Germany.
Dr. Vijay Kumar	Biography selected in Marquis Who's Who in the World, 2015 Israeli Science Foundation (ISF) Postdoctoral Fellowship at BenGurion University of Negev.2011. Sri Gopala Kishan Vepachedu Memorial Best Senior Research Fellow Award for outstanding publications at IICT, Hyderabad, 2011

- **Doctoral / post doctoral fellows**

Name	Year	Award
Vijesh Vyas	2016-17	Awarded Newton Bhabha Fellowship under DST INSPIRE
Jyoti Dutta	2016-17	Awarded 1st prize in poster presentation during the national symposium 'Recent Developments in Synthesis and Catalysis', organized by Department of Chemistry, Dibrugarh University on 10th and 11th March 2017 in Dibrugarh, Assam
Rutesh Savalia	2016-17	Awarded Prime Minister's Fellowship for Doctoral Research from Science & Engineering Research Board, Department of Science and Technology, Government of India and Confederation of Indian Industry on 27th September 2016
Sitaram Gund	2016-17	Awarded 1st prize for poster presentation in the National conference on New Vitas in Chemical Research organized by department of chemistry, The IIS university, Jaipur on 18th January – 19th January 2017 in Jaipur, India
Ravishankar Kadam	2016-17	1st Prize in Poster cum Oral presentation in national conference on "new frontiers in chemistry –from fundamentals to applications organised by Birla Institute of Technology and Science Pilani on 28th to 29thJanuary, Goa Campus, Goa
Nisha Kadam	2016-17	1st Prize in Oral presentation in Green chemistry and sustainable environment organized by B. S. Abdurrahaman university on 2-3 August 2016, Vendalur, Chennai
Ravishankar G. Kadam	2015-16	Secured first prize in poster presentation at**Indo-German Convention of Landau Alumni**(IGCLA2015) 21st and 23rd August 2015, Kasturba Medical College, Manipal University
Prashant Sahebrao Mandal	2015-16	Awarded 1st Prize for Poster Presentation in "CSIR-IICT – A Tributary Symposium On 100 Years Of Chemical Bonding By Gilbert N. Lewis", organized byCSIR Hyderabad India 3rd and 4th Aug 2016
Deepak Kurhe	2014-15	First prize in Oral presentation in Advancement in Material Science (AMS 2014) at Coimbatore
Jeevan Bhojane	2014-15	First prize in Oral presentation in CONCHEM 2014, Ruparel College
Manohar A. Bhosale	2014-15	First prize in Oral presentation in National conference on "Nanoscience- A Science of 21st Century" (NSTFC- 2014)" at

		Mahatma Phule College, Panvel, Mumbai
Kishor Dhake	2013-14	Best Thesis Award by ICT in Third Convocation
Ganesh More	2013-14	Second prize in poster presentation in association by ICT RSC Research Poster Compitation – 2014.
Sujit Chavan	2013-14	First prize "National Symposium on Current Trends in Chemical and Nano Sciences"-2014 (CTCNS- 2014) organised by SHIVAJI UNIVERSITY, KOLHAPUR
Aniruddha B Patil	2013-14	ICC Young Scientist Award in Organic Chemistry-2013 by Indian Council Of Chemist, Bangalore
Kirtiikumar C. Badgujar	2013-14	First prize in Oral presentation in CATSCHOL-2014 which was conducted in association with the CATALYSIS SOCIETY OF INDIA & the Royal Society of Chemistry at ICT, Mumbai
Mahesh Edake	2013-14	Awarded Canadian Commonwealth fellowship for postdoctoral research at Montreal, Canada in the year 2014
Satish Lanke	2012-13	1st Prize in Poster Competition in 50th Annual convection of Chemists by Indian Chemical Society Kolkatta at University of Punjab, Chandigarh, 2013
Rahul Watile	2012-13	Awarded Guest fellowship (Swedish Academic Exchange Service) 2012 for Doctoral research at Uppasala University, Sweden.
Aniruddha Patil	2012-13	Awarded Bayer fellowship (Germany) 2012 for Doctoral research at Chem Cat centre RWTH Achen University, Germany.
Mahesh Edake	2012-13	Awarded Canadian commonwealth fellowship for doctoral research at Montreal, Canada in the year 2012. Awarded with a special grant from Ecole de Polytechnique, Montreal, Canada to carry out research on biodiesel production. Awarded with travel grant from Department of Biotechnology, Govt. of India for attended conference at Italy

Anand Burange	2012-13	Won first prize for quiz competition based on catalysis at 21st National Symposium on Catalysis for Sustainable Development (CATSYMP-21) at IICT, Hyderabad.
Rupesh Gaikwad	2012-13	Awarded "Bombay Technologist Best Post Graduate Student Award" for the year 2012-13 at Institute of Chemical Technology (Formerly UDCT), Mumbai, India.
Datta Bagal	2012-13	Awarded DAAD Fellowship for collaborative research work with Prof. Oliver Reiser at Regensburg University: June 2012 Awarded "International Quality Network- Medicinal Chemistry fellowship" at Regensburg University, Germany: September 2013
Rahul Watile	2012-13	Awarded Guest Scholarship (Swedish Institute fellowship) for collaborative research work with Prof. Joseph S. M. Samec, at Department of Biochemistry and Organic Chemistry, Uppsala
Satish Lanke	2012-13	Awarded Young Scientist Award, 2012 in 31st annual conference of Indian Council of Chemist held at Saurashtra University, Gujarat.
Kishore Dhake	2011-12	Common Wealth Fellowship for collaborative work with University of Saskatchewan, Toronto, Canada
Dattatraya Bagal	2011-12	Awarded DAAD fellowship (German Academic Exchange Service) 2012 for Doctoral research at Regensburg University, Germany 'Indian Chemical Society's Young Scientist Award 2011 at "48th Annual Convention of Chemists and Celebration of the International Year of Chemistry', University of Allahabad Selected for participating in "FOURTH SCIENCE CONCLAVE- An Interaction with Nobel Laureates"
Mayur Khedkar	2011-12	RSC-PTG Award –2011, during his poster presentation at "15th Indian Society of Chemists & Biologists International Conference", Saurashtra University, Rajkot, India
Rupesh	2011-12	Elected as a "Member of International Youth Nuclear Congress,

Gaikwad		Grant Committee" for the conference held at Charlotte, North America
Kedar Kumthekar	2011-12	Received "Expert Featured Research Article Honorarium" for article entitled "Properties of vegetal oil based creams in skin care" published in Cosmetics and Toiletries October 2011 Issue 702, 704-706, 708
Sandeep Agawane	2011-12	Prof. P. Sengupta Memorial Young Scientist award in oral presentation, Organic Chemistry Section in National Conference "48th Convention of Chemists 2011" organized by Indian Chemical Society at University of Allahbad
Kailas Sanap	2011-12	Dr B N Mankad Award (Young Scientist Award) at 48th Annual Convention of Chemist in December 2011 at Allahabad university organised by ICS

- **Students**

Name	Year	Award
Vikrant Yelve, Vidhi Shah, Pritam Kamble, Amruta Karbelkar, Neelam Tiwari & Shilpa Mehendale	2011-12	Late Prof. A. P. Rao Inter collegiate Rolling Trophy from Ramnarain Ruia College
Shailesh Kannojia, Bhaskar Gautam	2011-12	1st prize in YICC for Ion-Exchange
Vaibhav Sable, Prerna Lokhande and Sayli Hazare	2011-12	2nd prize in YICC for Indofil
Vijesh Vyas, Neelam Tiwari	2011-12	3rd prize in YICC for Jaydev chemical Industries

29. Seminars/ Conferences / Workshops organized and the source of funding (national/ international) with details of outstanding participants, if any

Title	Date	Source of Funding
Security Personnel Training Workshop	3rd September 2016	TEQIP II
Laboratory Safety – Pitfalls and Remedies	27th and 28th February 2017	TEQIP II
Laboratory Safety Workshop	1st and 2nd September	TEQIP II

	2016	
Chem Careers 2015	August 2015	Royal Society of Chemistry
Laboratory Safety Workshop for Ph.D. Students	4th September, 2014	Centre of Excellence in Process Intensification & Department of Chemistry
Workshop on “Applications of Electrochemistry in Ph oto Voltaic Devices, Nanotechnoloy and Energy Research’’	16th March, 2015	Metrohm Inc.
CONTECH 2014	18th January, 2014	Association of Chemistry Teachers (ACT)
NET/SET Orientation Workshop	25th and 26th February, 2014	TEQIP II
CATSCHOL	4th March, 2014	Catalysis Society of India and ICT
Laboratory Safety Workshops For Ph.D. Students	18th and 19th March, 2014	Technical Education Quality Improvement Program – Phase II (TEQIP – II)
Teaching Learning Workshop	28th and 29th March, 2014	TEQIP – II
One day Indo-Japan conference on "Catalysis -A Green Chemistry Approach"	13th February, 2013	TEQIP-II
Indo-German conference "Green Catalysis for Sustainable Development"	29th to 31st October, 2012	Department of Science and Technology, India, and Federal Ministry of Education and Research, Germany.
Laboratory Safety Workshops for laboratory staff and Ph.D. Students	20-21 March, 2013	TEQIP
Laboratory safety Workshop for Laboratory Staff	19th March, 2013	TEQIP
NET/SET Orientation workshop	9th and 10th May, 2013	TEQIP
Workshop on “Green and Sustainable Technology” and SERB Task Force Meeting on Green Chemistry	11th May, 2013	ICT
Chem Careers India 2012	20th October, 2012	British Council, Mumbai
CONTECH 2012	1st December, 2012	Association of Chemistry Teachers (ACT)

30. Code of ethics for research followed by the departments

The Institute has a set Code of Conduct for research and the Department follows the same.

31. Student profile programme-wise:

Name of the Programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
M. Sc. (Chemistry) (last five years)	1257+	75	64	95%	92%
Ph.D. (last five years)	1139+	146	45	NA	NA

32. **Diversity of students**

Name of the Programme (refer to question no. 4)	% of Students from the Same University	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
M. Sc. (Chemistry)	NA	95%	5%	0 %
Ph. D. (Chemistry) Ongoing	5%	94.5%	<1%	0%

33. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Number of sudents who passed NET JRF examination	04
Number of students who passed NET LS examination	07
Number of students who passed GATE examination	05

34. Student progression

	Student progression	Percentage against enrolled
	UG to PG	NA
	PG to M.Phil.	NA
	PG to Ph.D.	20%

Ph.D. to Post-Doctoral	5 to 10 %
Employed	
Campus selection	20%
Other than campus recruitment	80%
Entrepreneurs	0%

35. Diversity of staff

Percentage of faculty who are graduates	
of the same university	0 %
from other universities within the State	50%
from universities from other States	42%
from universities outside the country	8%

36. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: None

37. Present details of departmental infrastructural facilities with regard to

a) Library – students / faculty members of the Department can avail the facilities of the Institute library which is well-equipped with numerous volumes of textbooks, reference books, journals , digital journals in the subject of chemistry and allied sciences

b) Internet facilities for staff and students –

The institute has wi-fi facility on the campus and the students as well as staff can access the same. Additionally, the Department has well- equipped computational facility for the students

c) Total number of class rooms – Classrooms are common for all the courses in the Institute

d) Class rooms with ICT facility – All classrooms are equipped with adequate multimedia facilities and biometric attendance monitoring system

e) Students' laboratories – Three laboratories for undergraduate / M. Sc. Students

f) **Research laboratories –** The Department has five research laboratories and three instrumentation laboratories (for common instrumentation facilities)

38. List of doctoral, post-doctoral students and Research Associates

a) **from the host institution/university** – NA

b) **from other institutions/universities** – 05

39. Number of post graduate students getting financial assistance from the university. At present, the Institute (a deemed university) does not provide any financial assistance to the students enrolled for the M. Sc. Course of the Department.

40. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes. The Departmental committee made several deliberations. Experts from within the Institute and from other reputed Institutes were consulted. A syllabus committee comprising of faculty members of the Department and external experts was constituted to frame the syllabus.

41. Does the department obtain feedback from

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes. The feedback from the faculty members is taken by the Head of the Department and discussed in the Department meetings. Suitable changes are made in the teaching and evaluation accordingly.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes, the Head of the Department takes feedback from the MSc students at the end of each semester. Besides this, some of the faculty members also obatin feedback from the students for their individual courses.

The Institute has devised a centralised online feedback system for all the courses

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Not formally. However, the Head of the Department and the faculty members have constant interaction with the alumni and their feedback is taken into account.

42. List the distinguished alumni of the Department

Dr. K. N. Venkatesh
Dr. Shashank Potnis
Dr. R. A. Desai Dr.
V. B. Randive Dr. V.
S. Nadkarni Dr. Lalit
Salgaonkar Dr. Satish
Pai

Dr. Rajesh Salkar

43. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

The Department undertakes various activities as part of student enrichment programmes which include:

- Endowment lectures (annually) Spinco
  Biotech Ramanathan lectures G. D.
  Gokhale Endowment lectures Golden
  Jubilee Endowment lectures CMP
  Endowment lectures
  B. D. Tilak Visiting Fellowship Dai-ichi
  Karkaria Visiting Fellowship Dharamsi
  Morarji Visiting Fellowship
- Laboratory Safety Workshop

44. List the teaching methods adopted by the faculty for different programmes.

•Use of multimedia
•Self learning through assignments and seminars
•Innovative teaching methods such as POGIL – Process Oriented Guided Inquiry Learning

45. How does the Department ensure that programme objectives are constantly met and learning outcomes are monitored?

1) We have a system of continuous assessment under which a series of tests, assignments, and quizzes are arranged throughout the semester to monitor the progress of our students and teaching. There is also one formal mid-semester examination. The weightage of continuous assessment in the total marks is 20%, while that of the mid-semester exam is 30% and the end semester exam is 50%.
2) We ensure advice from external experts by appointing them as visiting faculty
3) We regularly organize endowment lectures and lectures by experts
4) Students are encouraged to participate in co-curricular activities within and outside the institute
5) Activities like Rasaynam and CONTECH are organized to boost student involvement

46. Highlight the participation of students and faculty in extension activities.

1) Students of M. Sc. programme actively participate in VORTEX – a technical festival organized by ICT. They also take part in other inter-collegiate events and competitions.
2) Organising Safety workshop for laboratory staff
3) Chemistry Olympiad
4) NIUS
5) Marathi Vigyan Peeth
6) Summer research programme of INSA
7) Resource persons for Refresher courses, lectures / lecture series delivered at other educational institutes

47. Give details of "beyond syllabus scholarly activities" of the department.

The faculty members of the Department are actively involved in various research activities like guiding Ph.D. students, industrial consultancy, executing sponsored projects and writing books and research papers. In addition, they contribute to the activities of other Departments / Universities as members of Ph. D. thesis evaluation and syllabus review committees. Most of the faculty members of the Department have delivered invited lectures in conferences / seminars / workshops. They are regular resource persons for refresher courses conducted for college teachers.

48. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

Yes. The M. Sc. programme of the Department has been accredited by the Royal Society of Chemistry in 2014.

49. Briefly highlight the contributions of the Department in generating new knowledge, basic or applied.

The basic and applied knowledge generated through research activities is regularly published as journal articles, reviews and books. Some of the research outcome has also been patented. In addition, the members of the Department carry out industrial consultancy where they apply the knowledge to solve the real world problems faced by the industry.

50. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

STRENGTHS:

- Substantial academic contribution by the Department towards conducting theory as well as practical courses for the under-graduate Programmes of all the three branches, viz., B. Chem. Engg., B. Tech., and B. Pharm. Sci.
- High diversity among the present faculty members regard to research interests and area of expertise.
- Numerous analytical facilities for common use such as Infrared and UV Vis spectrophotometers, Gas chromatographs, High Performance Liquid Chromatograph unit, Zetameter, Viscometer, ovens and furnaces
- UGC SAP and DST FIST sponsored research funding for the next five years
- RSC accredited MSc programme of the Department has been highly appreciated by experts and the students
- The faculty members are actively engaged in several extra-mural academic activities, like the Indian National Chemistry Olympiad, National Initiative for Undergraduate Research, INSA summer research projects. They are also committee/board members of several academic bodies.

WEAKNESSES:

- The space available for under-graduate classes is not adequate, though the Department somehow manages the problem presently.
- Few faculty positions are vacant for a long time.
- The Department functions from three different locations of the Institute. This makes communication, supervision, interaction, and control difficult.
- The laboratories are not fully modernized and a thorough revamping is essential.
- Secretarial assistance is not available. As a result, the faculty members spend lot of time on administrative and documentation work.

OPPORTUNITIES:

- The Department gets a good number of applications for Ph.D. admission. Thus, there is no dearth of research manpower and new research areas can be initiated and sustained.
- The vacant faculty positions can be filled with scientists/adjunct faculty on suitable terms and conditions.
- A network can be made of the research students who had passed out of the Department who are placed in various research/academic organizations. This will help in conducting research of academic, industrial and social relevance.
- The Department has the opportunity to identify promising under-graduate students and hence can carry out minor, exploratory research projects through them. This can be a co-curricular activity which will also help the under-graduate students in getting a good placement or scholarship.
- The Department can increase the intake of M. Sc. programme. In future, integrated programmes can be initiated.

CHALLENGES:

- Permanent faculty positions are vacant for a very long time. If these positions are not filled soon, the quantity and quality of the output of the Department is bound to go down.
- The quality of the Ph.D. applicants is not high.
- The increase in the in-take of the under-graduate classes has gone beyond threshold.

51. Future plans of the Department.

Research Plan:

- To expand the current research expertise by incorporating expertise from various contemporary areas of research such as nanoscience, bioorganic chemistry, materials chemistry, computational chemistry, theoretical chemistry
- To develop research facilities to meet international standards with respect to analytical facilities, lab facilities, etc.
- To enrol quality students for PhD and train them rigorously through course work and research
- To undertake research problems of industrial relevance
- To introduce, develop and nurture the culture of commercialization of research and documenting the work as patents

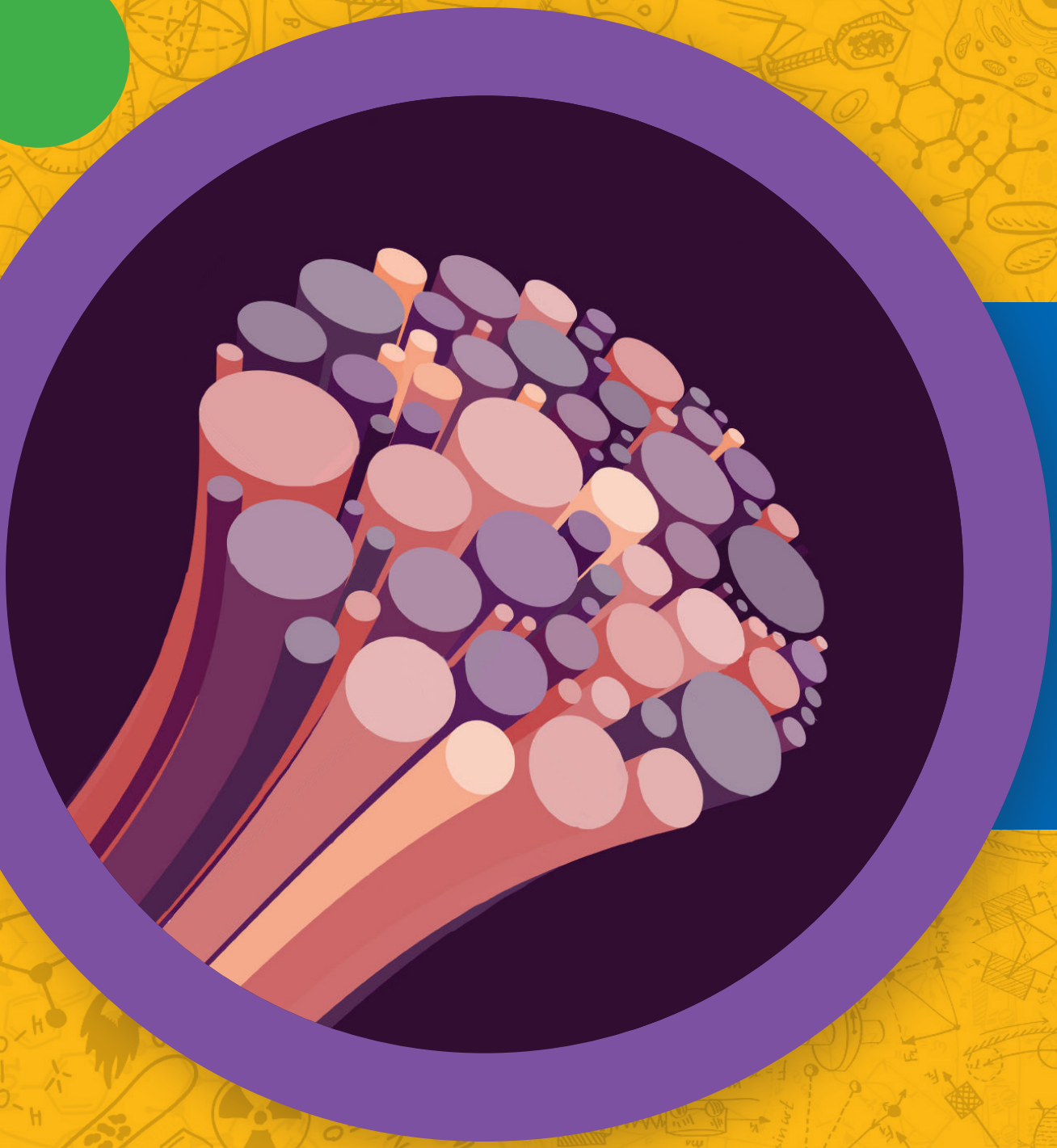
Academic Plan:

- Develop the M.Sc programme further in terms of quality and make it on par with the international standards.
- Increase the intake of M. Sc. students
- Provide the students excellent laboratory, computational, research and instrumental facilities
- Make online resources available to the students
- Collaborate with reputed Universities and institutions to improve the academic standards
- Provide opportunities to the students to work in reputed institutes as interns

Outreach Plan:

- Involve, individually and collectively, in worthy national academic programmes like Chemistry Olympiad, NIUS, teachers' training, KVPY, etc.
- Contribute to reputed academic professional bodies and NGOs like, Indian Chemical Society, Association of Chemistry Teachers, RSC, Marathi Vidnyan Parishad, etc.
- Develop chemistry education related programmes

FIBRES & TEXTILE PROCESSING TECHNOLOGY DEPARTMENT



Fibres and Textile Processing Technology Department

Department of Fibres and Textile Processing Technology (FTPT), formerly known as Textile Chemistry section has the unique distinction of being one of the two disciplines (other being Chemical Engineering), with which this institution- ICT (formerly UDCT) started in the year 1933. The Department conducts B.Tech. course with an intake capacity of 34, which is highest among all the B.Tech. courses of ICT. The department also offers post graduate courses in M. Tech. with an intake capacity of 18, M.Sc. in Textile Chemistry with intake capacity of 20 and Ph.D. (Tech.) and Ph.D. (Textile Chemistry). The dept has admitted 18, 18 and 20 students in the last three years (2012-13 to 2014-15) with the total no of post graduate students being 56. The post graduate courses attract a large number of students and so far more than 2275 graduates and 525 post graduates have passed out from this Department. About 30% of the under graduate and post graduate student go abroad for higher studies. Some of the institutes where the students gets admissions are NCSU, Texas, Colorado, Cornell, Carnegie Mellon University, eorgia Institute of Technology in the USA , Hariot-watt University in UK and Martin-Luther University, Istitutomarangonim Friedrich-Alexander, Italy. We achieve 100% campus placement for UG and 80% for PG students. The companies that visit for campus interview are Welspun, Pidilite, Huntsmann, Archroma, Anthemcell, Arvind, Raymonds, Global Nonwovens, Garware Wall ropes, Sarex , Nimkartek and many others. Salaries offered are in the range of 4 lakhs per annum.

The dept has very good testing facility to carry out research work. Major characterization equipments includes XRD, Leica Microscope, DSCT, TGA,FTIR, Nano particle size analyzer, Contact Angle measuring system, Tensiometer, Zeta Potential meter, HPLC, UPF meter, Computer Colour Matching system, Tensile strength tester, BOD and COD analyser, Laminar flow, Atomic Absorption Spectrophotometer, Resistivity meter, Static Charge Analyzer, LOI tester, MFI measurement machine, Twin Screw Extruder and many other small testing and analytical instruments. Recently we have acquired Electro spinning system and Lab coating machine. The dept also has pilot scale melt spinning machine.

There are total seven faculty members all holding Doctorate degree. The dept faculty is engaged in high quality fundamental as well as applied research and they have got over 700 publications in Indian and International journals. The number of publication over the last three years (2012-15) is 111. There are 11 permanent and 5 temporary non-teaching staff members in the dept, out of which 07 are permanent and 04 are temporary. Department has 13 laboratories occupying 18,831 sq. ft. floor area.

The faculty of the Department has good interaction with the industry. 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.Dept faculty has govt. projects from UGC,DST, AICTE and TEQIP in the last three years amounting to .Rs. 380.24 lakhs in the last three years. They also have project work from the industry like HUL of value Rs 26.7 lakhs Dept faculty is also involved in consultancy worth Rs. Rs 19.20 lakhs .

It gives us immense pleasure to put on record that in the month of August 2013, all the Textile department faculty were invited to Ethiopia by Textile Ministry of Ethiopia to do the GAP analysis of Ethiopian Textile Industry and Universities and submit a proposal to make them internationally competitive. The project is being successfully implemented. So far 7 M Tech, 1 M Sc and 1 Ph D fellow from ETIDI has been admitted in ICT. The dept faculty along with industry expert has conducted 5 Refresher courses, 1 Technical Awareness seminar and 1 International Conference in Ethiopia. The total amount under this MoU is Rs. 1319.11 lakhs.

Dept organizes national and international conference every three years under the banner of "Texsummit". Students of the dept also organize technical event every year called "TEXUEST" where paper presentation, quizes and other events are held in the dept in which students from all over India participate and competes. Annual get together for alumni is also planned under the banner of "Texpression" which is a cultural event. After the globalization of the markets with border less trade, textile manufacturing activities are shifted to country like India which is fast developing economy. Today 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. 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 ofTextile 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.

Events Organized (2013-16)

Endowment Lectures-

Dr. Dileep wakankar (India Head Corporate Product safety Clariant Chemicals, India) delivered a lecture on topic of "Chemical Management – Global and Indian situation" (M. V. Nimkar Endowment Lecture) on 8/03/2013

Dr. Sanjeev Kamat (Pidilite Industries Ltd., Chief Marketing) delivered a lecture on topic of "Innovations in Textiles", (G. M Nabar Endowment Lecture) on 8/03/2013

Prof. M.L. Gulrajani (Emeritus Professor,IIT, New Delhi) delivered a lecture on "Enzymatic Functionalization of Textiles for the production of smart and intelligent textiles" (M.V. Nimkar Endowment Lecture)

Mr. Arvind Shikarkhane (Textile Processing Consultant) delivered a lecture on "Energy Conservation & Effluent Control in Textile Processing" (M.V. Nimkar Endowment Lecture) on 21st march 2014

Mr. Prabhatkumar K. Trivedi (General Manager, Archroma India Pvt. Ltd.) delivered a lecture on "Key Concerns for Continuous Dyeing & Features for Finishing" Class of 1966 Visiting Fellowship) on 24th March 2014

Guest Lectures

Dr Prasad Potluri delivered a lecture on "Medical Devices to Aerospace Materials: Research Opportunities for Fibre Science and Textile Technology", under TEQIP-II on 12th July 2013

Dr. Siva Rama Kumar Pariti (Head STS Division, Dystar India Pvt. Ltd.) delivered a lecture on topic of "Ecological Considerations of Colorants for Textile Applications", under TEQIP-II on 02/09/2013

Dr. Imtiyaz Ahmed Ansari Delivered a lecture on "Surface modification using dendritically functionalised polymers", under TEQIP-II on 4th January 2014

Prof. Sandra Downes, University of Manchester, U.K Delivered a lecture on "Developing novel biomaterials using nanotechnology" under TEQIP-II on 20th January 2014

Ms. Amruta Datar, Counselor for Mumbai, Campus France delivered a lecture on "Higher education opportunities in France", under TEQIP-II on 24th January 2014

WRA Staff delivered a Workshop on "Awareness of Sport Textile", under TEQIP-II from 27/01/2014 to 28/01/2014

Prof. (Dr.) Rishi Jamdagni Director, the Technological Institute of Textile & Sciences, Bhiwani, Haryana delivered a lecture on "Textile - A road map to 2025 and globalisation", under TEQIP-II on 30th January 2014

Mr. Vedprakash Shukla (Director, Skyfresh Solutions) delivered a lecture on topic of "Handling Indusrtial Problems – 3M's", under TEQIP-II on 28/02/2014, 1/03/2014, 28/03/2014 & 4/04/2014

Mr. Zak Reese (Measurement Technology NW USA delivered a lecture on "Biophysical Instruments", under TEQIP-II on 15th april 2014

Mr. Man Mohan Kohli delivered a lecture on "Career and Education Opportunities abroad", under TEQIP-II Wednesday, October 21th, 2015

Dr. S K Bhullar (Department of Mechanical Engineering, Bursa Technical University) deliverd a lecture on "Smart Nano/Micro fibrous Structure-Biomedical applications", under TEQIP-II on 13th January 2015.

Dr. Anil Netravali, Jean and Douglas McLean delivered a lecture on "Green Materials & Processes: From Advanced Composites to Nano-filters & From Wound Healing to Hair Styling", under TEQIP II on 11th January 2016

Dr. Juan Hinestroza delivered a lecture on "Teaching cotton new tricks by manipulation of Nanoscale phenomena",

Ethiopian Textile Industry Development Institute (TIDI), *with the sole purpose of developing Ethiopian Textile industry on* ***25th Feb 2013***

Visit of faculty members to Ethiopia on 10th & 11th October 2014 for ***Annual Awareness in Ethiopia***

Refresher Course II

TEXTILE FIBRES

CHEMISTRY, PRODUCTION TECHNOLOGY, STRUCTURE PROPERTY RELATIONSHIPS & APPLICATION

29th December 2014 to 2nd January 2015

TECHNICAL SEMINAR -1 on ***Dyeing of Cotton – "Problem & Remedies"*** *held at* ***KOMBOLCHA, ETHIOPIA*** *on 2nd and 3rd March 2015*

Refresher Course III

Textile Dyes & Auxiliaries from Dyers perspectives

16th to 20th March 2015

Refresher IV & V –

Pretreatment of Textiles *(April 2015)* ***and Colouration of Textiles*** *(May 2015)*

Global Textile Congress *in association with Thailand Convention & Exhibition Bureau (TCEB), on 13th, 14th & 15th February, 2015 at Bangkok, Thailand.*

1st Semi-annual Steering Committee Meeting

20th August to 23th August 2015

Organized ***Texsummit in INDIA 2012*** *"9th India International Textile Machinery Exhibition" on 5th Dec. 2012 at Bombay convention and exhibition centre, Goregaon, Mumbai*

Organized three day workshop under TEQIP-II from 7-9 January 2015 at Dept of Fibres and Textile Processing Tech., ICT on ***"Process Intensification in Dyeing"*** *for the students of Sophiya College, Mumbai*

Programmes conducted under Academic Support for Weak students- TEQIP by **Lipika Nair, Texassist, Mumbai**

Sr No	Date	Venue	Module Particular	Target Student	Number of Student	Benefits for Student
1	03-03-2013	K.V. Auditoruim, ICT	Presentation Skill	B.Tech.	20	Improvement in presentation skill.
2	17-03-2013	K.V. Auditoruim, ICT	Presentation Skill	B.Tech.	20	Improvement in presentation skill.
3	26-03-2013	Physical Testing lab, Textile Dept, ICT	How to Handle Interview	PG and B.Tech.	20	It helps student to face interview
4	09-04-2013	Physical Testing lab, Textile Dept, ICT	How to Handle Interview	PG and B.Tech.	20	It helps student to face interview
5	16-04-2013	Physical Testing lab, Textile Dept, ICT	Building Self Esteem	Weak students from B.Tech.	20	Confidence Building

Finishing School Programme Under TEQIP Programme Phase II August 31 – September 1, 2013 *by Mr. Francis D'Souza, Kamshaft Innovation Pvt. Ltd. On the topic* ***"Communication Skills".*** *The lecture was attended by UG & PG Students of Textile Department.*

Texpression & Texquest 2013

Inter-college Technical Paper Presentation Competition

Cultural Festival of Textile Department

Texpression & Texquest 2014

1. Name of the Department – **Department of Fibres and Textile Processing Technology**
2. Year of establishment - **1933**
3. Is the Department part of a School/Faculty of the university- **Yes**

4. Names of programmes offered - **B.Tech.(Fibres & Textile Processing Technology), M.Tech.(Fibres & Textile Processing Technology), M.Sc. (Textile Chemistry), Ph. D. (Tech.) & Ph. D. (Sci.) (Textile Chemistry), Ph. D. (Tech.) (Green Technology), Ph. D. (Sci.) (Biotechnology)**
5. Interdisciplinary programmes and departments involved-
   B.Tech : Chemistry, Physics, Mathematics, Chemical Engineering, General Engineering
   M.Tech: Physics
6. Courses in collaboration with other universities, industries, foreign institutions, etc.
   National Universities/ Industries- NA
7. Details of programmes discontinued, if any, with reasons - **NA**
8. Examination System: **Semester Based Credit System**
9. Participation of the department in the courses offered by other departments - **Yes**
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others).

	Sanctioned	**Filled**	**Actual (including CAS & MPS)**
Professor	3	2	3
Associate Professors Reader	2	1	2
Asst. Professors Lecturer	2	2	0
Others Adjunct professor/ INSPIRE Fellow	--	2	2

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	**Qualification**	**Designation**	**Specialization**	**No. of Years of Experience**	**No. of Ph.D/M.Phil Students guided for Last 4 years**
Prof. R. V. Adivarekar	Ph.D. Tech.	Prof. & Head of Dept	Textile colouration, Green Processing of Textiles, Medical Textiles, Enzyme manufacturing and application, Natural dyes for textiles and cosmetics, Textile composites, Novel Processing Techniques.	18 Years	07

Prof.Dr. M. D. Teli	Ph.D. (Tech.	Professor of Textile Chemistry &Member of BOM	Technical Textiles Modification of Polymers Nano composites Superabsorbent Natural and Functional Dyes Specialty Finishes Electro kinetic Properties Coating Plasma modification	38 Years	03
Prof. S. R. Shukla	B.Sc. (Hon.), B.Sc. (Tech.), Ph. D. (Tech.), F.M.A.S.	Professor of Technology of Dyeing and Printing	Textile wet Processing, Effluent Treatment, Heavy Metal Removal, Polymer recycling, and Biotechnology.	38 Years	13
Prof. (Dr.) Usha S. Sayed	PhD (tech)	Associate Professor	Technical textiles, Speciality chemicals, Garment Processing	29 Years	01
Dr.R.D.Kale	Ph.D. Tech	Associate Professor	Processing of Synthetic fibres at room temperature, Synthesis and application of nano particles in Effluent treatment, Modification of Synthetic Fibres,Use of PEMs for modification of Textile Polymers	14 Years	-
Dr. Asfiya Q. Contractor	Ph.D. Tech.	Adjunct Professor	Analytical Electrochemistry in Textiles, Electroless metal plating on textiles to produce EMI Shielding fabrics and decorative metal printing.	2.5 Years	-
Dr.Sandeep P More	Ph.D.	DST-INSPIRE Faculty	Organic Chemistry	2 Years	-

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

Sr. No.	Visiting Faculty	Designation	Company	Class
1	Mrs Swati Raut	-	-	S. Y. B. Tech. (Sem III) TXT1101, Technology of Yarn and Fabric Manufacture

2	Dr. Ashok Athalye	G.M. Technical service	Atul Ltd.	M. Tech. (Sem II) TXT2201, Advanced Textile Chemistry
3	Mrs.Lipika S. Nair	Textile Consultant	-	M. Tech. (Sem I) TXT2205, Continuous Processing of Textile M. Tech. (Sem II) TXT2301, Evaluation of Textiles, Dyes & Auxiliaries M.Sc. (Sem III) TXT2213, Continuous Processing of Textile
4	Dr.Nilesh Kanoongo	Director	UTCPL	M.Tech. (Sem II) TXT2801, Energy and Water Conservation in Processing Industries M.Sc. (Sem II) TXT2303, Computer Applications in Color Evaluation
5	Mrs. Armity Shukla	Lecturer	SNDT Women University	Final Y. B. Tech. (Sem VIII) TXT1402, Merchandising and Designing of Textiles
6	Mr. Sanjay Sahoo			T. Y. B. Tech. (Sem VIII) TXT1901, Textile Process House Management
7	Ms.Vibhuti Khedekar	Lecturer	SNDT Women University	T. Y. B. Tech. (Sem VI) TXT1401, Technology of Garment Manufacturing
8	Mrs. Madhura Nerurkar	Director	Calantha Biotech	M.Tech (Sem II) TXT2601, Biotechnology in Textiles
9	Dr. Ashok Sable	Director	Kusmo Chemicals Pvt Ltd	M.Sc. (Sem III) TXT2304, Evaluation of Processed Textiles T. Y. B. Tech. (Sem VIII) TXT1302, Testing of Dyes, Chemicals and Auxillaries

13. Percentage of classes taken by temporary faculty – programme-wise information: 11%

14. Programme-wise Student Teacher Ratio -

- B.Tech – 120/7 – 17: 1
- M.Tech – 20/7 – 3:1
- M.Sc. – 10/7 – 2:1

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

	Sanctioned	Filled	Actual
Academic support staff (technical)	14	13	14
Administrative staff	01	01	01

16. Research thrust areas as recognized by major funding agencies
Research Interests –

- **Fibre Manufacture and Modification:** Melt blending of PP and other polymers for improved dyeability, weight reduction of PET, grafting of fibres for improved performances.
- **Wet Processing of Textiles:** Pre-treatment of greige fabric followed by dyeing and finishing, combined processes, thickener modification, specialty finishes, zero discharge processes.
- **Biotechnology:**Production of enzymes and their applications, microbial colorants.
- **Green composites**: Application of natural fibres and use of natural matrix for making green composites
- **Nanotechnology:** Synthesis and characterization of various nanomaterials and their application for functional properties.
- **Functional Textiles and Technical Textiles:**Antibacterial fabrics, mosquito repellent textile, fragrant clothings, conductive textiles using electroless coatings, hydrophilic synthetic fabrics etc.
- **Novel Technologies:**Use of plasma for surface modification of textile, micro-encapsulation of finishing agents and dyes, LBL technique, coating of fabric for functional properties.
- **Synthesis and application of novel surfactants on textiles**
- **Formulation of nano emulsions and Nano-Silicones for process intensification**
- **Effluent Treatment:**Removal of heavy metals from effluent by use of agricultural waste products, decolorization of effluent by use of chemical and biological methods and nano particles (use of microbes and their enzymes).
- **Recycling:** Recycling of process chemicals like sodium hydroxide, reuse of waste cotton to make hygienic textile, recycling of synthetic fibres and plastic bottles
- **Smart Textiles and organic electronics:** Singlet fission in dimeric organic molecules, synthesis of heterocyclic molecules for organic electronic applications, textile sensors, fabrication of electronic devices on textile surface, molecular machines on textile surface.

17. Number of faculty with ongoing projects from a) National b) International funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

a) National funding agency-28
b) International funding agency- 01

c) Total Grant received- **Rs. 5,09,78,926 + US $19, 98,665**

Sr. No.	Faculty	Project Title	Funding Agency	Amount	Duration
1	Prof. R. V. Adivarekar	Yellowing of fabrics	HUL	8,50,000	2 Years (2011-13)
2	Prof. R. V. Adivarekar	Development of processes for manufacture of colour changing fabric/paper prototypes	HUL	75,000	4 Months (2012)
3	Prof. R. V. Adivarekar	Deposition of 'Actives' on Fabric Surface by Laundry Processes: Quantification, Understanding and Ways to Improve Deposition	HUL	6,00,000	1 Year (2012-13)
4	Prof. R. V. Adivarekar	Dyeing of fibres	HUL	7,41,576	1 Year (2012-13)
5	Prof. R. V. Adivarekar	-	FIST, DST	1,50,00,000	4 Years (2013-18)
6	Prof. R. V. Adivarekar	Modification of Synthetic Fibres and their Colouration	MODROBS, AICTE.	5,00,000	Years (2010-15)
7	Prof. R.V. Adivarekar	Marble printing on Textiles	TEQIP-II	5,80,000	3 Months (2016)
8	Prof. R. V. Adivarekar	Development of technologies for consumer demonstrations	HUL	9,00,000	4 Years (2012-15)
9	Prof. R. V. Adivarekar	Product development through wet processing	Welspun India Ltd.	10,42,500	1 Year (2014-15)
10	Prof. R. V. Adivarekar	Twining Partnership Program	ETIDI, Ethiopia	US$19, 98,665	(2015-18)
11	Prof. M.D. Teli	Studies in printing with Reactive dye	Minish Dye Chem	15,000	1 Year (2012-13)
12	Prof. M.D. Teli	Studies in Thickeners	Satguru Agro Industries	60,000	1 Month (2016)
13	Prof. M.D. Teli	Studies in textile finishing	Birla Cellulose	2,00,000	1 month (2016)
14	Prof. M. D. Teli	Studies in Natural Dyeing	Adiv Nature pure	1,00,000	1 Year (2012-13)
15	Prof. M. D. Teli	Effect of cosmetics and photo-radiation on Indian Hair	L'Oreal	7,00,000	1 Year (2012-13)
16	Prof. M. D. Teli, Dr. R.D. Kale	Development of Mosquito-repellent textiles	TEQIP-II	13, 14,000	2 Years (2013-15)
17	Prof. S. R. Shukla	Waste water treatment of textile processing industry in the GOTS revision process	GOTS, India	36,000	1 Month (2013)
18	Prof. S. R. Shukla	-	UGC-CAS-VII	97,00,000	

19	Prof. S. R. Shukla	Pollution load Assessment for existing and proposed product mix manufacture.	Navin Fluorine International Ltd., Dewas	3,00,000	3 Months (2013)
20	Prof. S. R. Shukla	Decolorization & Recycling of Coloured waste water of textile Processing & Dyestuff Industry	UGC (UGC-Major)	9,30,000	3 Years (2012-15)
21	Dr. Usha Sayed	Application of Pharmaceutical Drugs in Textile processing	TEQIP-II	3,60,000	3 Months (2016)
22	Dr. R.D. Kale	Consultancy services for Up Gradation, Expansion And Accreditation of Dadar Laboratory	MCGM	19,10,120	(2014)
23	Dr. R.D. Kale	Dyeing of Polyester and its blend using nano emulsion	TEQIP-II	16,40,000	2 Years (2013-15)
24	Dr. R.D. Kale	Polymeric dispersant for pigments	UICT Research fund	35,000	1 Year (2012-13)
25	Dr. R.D. Kale	Dyeing of Polyester using crude disperse dyes	Reliance Industries Ltd., Ahmedabad	5,00,000	2017
26	Dr.Asfiya Contractor	Metal plating on textile fabrics for wearable electronics	DST SERB	22,25,500	2017-20
27	Dr. Sandeep More	Covalently coupled Pentacene Dimers: Novel Materials for Organic Photovoltaics	DST INSPIRE	35,00,000	2015-20
28	Dr. Sandeep More	Biodegradable Flame Retardants	TEQIP INN	6,20,000	2016-17
29	Dr. Sandeep More	Phenanthroline-ly Coupled Dimers for Organic electronics	DST SERB	37,58,480	2017 - 20
30	Dr. Sandeep More	Singlet Fission via Extended Aromaticity	DST SERB	27,85,750	2017 - 20

18. Inter-institutional collaborative projects and associated grants received

a) National collaboration- 0 b) International collaboration- 0

19. Departmental projects funded by

Sr No	Agency	No of Projects	Amount in Lakhs	Status
1	UGC-CAS Phase VII	01	97.5	Completed
2	FIST, DST	01	150	On going
3	MODROBS	01	5	Completed
4	TEQIP Phase II	01	80.55	Completed
5	Ethiopian Textile Industry Development	01	129.82	On going

	Institute (ETIDI) of The Federal Democratic Republic of Ethiopia			

Total grants received- 462.87 Lakhs

20. Research facility / centre with

- Centre of Advanced studies in "Physicochemical aspects of Textile, Fibres, Polymers and Dyes" presently in Phase VII, since 1962.

21. Special research laboratories sponsored by / created by industry or corporate bodies : **NA**

22. Publications: Total – 238

- Number of papers published in peer reviewed journals – 238
- Monographs – NA
- Chapters in Books- 11
- Citation Index – range / average –389.86
- Impact Factor – range /average – 1.44
- h-index –11 (average h-index)

23. Details of patents and income generated

Total numbers of Patents are 07

- Demonstrating efficacy of cleansing products, Application no. 2158/MUM/2012, RavindraVitthalAdivarekar (from ICT), Nitin SiddheshwarDeshpande, Vamsi Krishna Manthena, VibhavRamraoSanzgiri (all from HUL).
- Preparation of Nano Titanium oxide using dispersing agents.Application no. 473/MUM/2013 R.V. Adivarekar, Neha Khurana.
- Improved mosquito repellent fabric and its composition. Application no. 4200/MUM/2014, M.D.Teli, Pravin Chavan.
- Mosquito repellent dye and its process of dyeing. Application no. 1622/MUM/2015, M.D.Teli, Pravin Chavan.
- Biodegradable Foam Composition and Process thereof (product & process). Application no.281/MUM/2015, Kale Ravindra, Katre Gaurav, Jagtap Priyanka, GarjeAmbadas
- A process for the preparation of mosquito repellent fabric using herbal formulation and composition thereof. Application no. 2201/MUM/2015, Kale Ravindra, Gotmare V D, Bhatt Latika.
- A composition for bleaching textile using natural stabilizing agent and process thereof. Application no. 201721011837, R.V. Adivarekar, S. Maiti & S. Pandey.

24. Areas of consultancy and income generated

Sr. No.	Faculty	Project Title	Funding Agency	Amount	Duration
1	Prof. R. V. Adivarekar	Yellowing of fabrics	HUL	8,50,000	2 Years (2011-13)
2	Prof. R. V. Adivarekar	Development of processes for manufacture of colour changing fabric/paper prototypes	HUL	75,000	4 Months (2012)

3	Prof. R. V. Adivarekar	Deposition of 'Actives' on Fabric Surface by Laundry Processes: Quantification, Understanding and Ways to Improve Deposition	HUL	6,00,000	1 Year (2012-13)
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10	Prof. M. D. Teli	Studies in Natural Dyeing	Adiv Nature pure	1,00,000	1 Year (2012-13)
11	Prof. M. D. Teli	Effect of cosmetics and photo-radiation on Indian Hair	L'Oreal	7,00,000	1 Year (2012-13)
12	Prof. S. R. Shukla	Waste water treatment of textile processing industry in the GOTS revision process	GOTS, India	36,000	1 Month (2013)
13	Prof. S. R. Shukla	-	UGC-CAS-VII	97,00,000	
14	Prof. S. R. Shukla	Pollution load Assessment for existing and proposed product mix manufacture.	Navin Fluorine International Ltd., Dewas	3,00,000	3 Months (2013)
15	Dr. R.D. Kale	Consultancy services for Up Gradation, Expansion And Accreditation of Dadar Laboratory	MCGM	19,10,120	(2014)
16	Dr. R.D. Kale	Dyeing of Polyester using crude disperse dyes	Reliance Industries Ltd., Ahmedabad	5,00,000	2017

25. Faculty selected nationally / internationally to visit other laboratories / institutions

/ industries in India and abroad

26. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Professional activities –

Sr. No.	Faculty Member	Affiliation to Professional Bodies	Membership
1	Prof. R.V. Adivarekar	Textile Association (India)	Life Member
		Editor of Journal of Textile Association	Member
		Wool Research Association, Thane	Member
		BTRA, Mumbai	Member
		'Core Group' to function as a Sub-committee of the Council for COE in Sprotech at WRA	Member
		Expert in Department Research Committee at Textile Manufacturers Department, VeermataJijabaiTechnological Institute	Member
		RRC, Dept. of Physics	Member
		Board of studies and faculties of The Maharaja Sayajirao University of Baroda in Textile chemistry	Member
		Selection committee, College of Home Science, Nirmala Niketan	Member
		Indian Fibre Society	Life Member
		Sophia Polytechnic	Visiting faculty
		Assess issues related to environmental pollution from textile mills identified as discharging effluent into river Ganga main stem and its tributaries	Member of expert committee
2	Prof. S. R. Shukla	Colour Group of India	Life Member
		Marathi VigyanParishad.	Life Member
		Alumni Association, UDCT	Life Member
		Textile Association (India)	Life Member
		Indian Fibre Society	Life Member
		Association of Chemical Technologists, India.	Patron Member
		Career Advancement Scheme for Scientists, CIRCOT.	Member
		Indian Journal of Fibres and Textile Research	Member

3	Prof. M.D. Teli	Task Force on Seri biotechnology, DBT, New Delhi	Member
		Journal of the Textile Association.	Honorary chairman Editorial board
		Research Advisory Committee, Central Silk Board, Bangalore.	Member
		Research Advisory Committee of ATIRA	Member
		Research Advisory Committee of BTRA	Member
		of Textile Association (India) and Recipient of Honorary Fellowship and Service Memento of Textile Association India	Patron Member
		Association of Chemical Technologists, India.	Patron Member
		Colour Group of India.	Life Member
		Colourage.	Member of Editorial Board
		Society of Dyers and Colourists, SDCMumbai Region.	Past-Chairman
		TIFAC-DST Mission Reach Programme, Domain Expert	Member
		Policy & Role of Govt. in Textile Industry (Working Group), Ministry of Textiles	Member
		Siyaram Silk Mills Ltd., Board of Directors	Member
		Academic Council, University of Mumbai.	Member
		SASMIRA (Mumbai)	Member
		All India Artisans and craft workers welfare associations	Served as Member
		Indian Textile Machinery Manufacturers Association, Mumbai.	Chairman Jury
		Editorial Board, Rossera	Member
		Editorial Board, Textile Value Chain	Member
		Board of Studies in Textiles and Clothing, SNDT University	Member
		Academic Council, S.V.T College	Member
		Academic Council, SNDT College,	Member
		Ph.D. Thesis at IIT, Deakin University and RMIT Australia, MS University and Vishweshwarya University Belgaum, Bengalaru, Kolkata university etc	Referee
		Papers and program committee, Global Textile Congress 2015	Chairman

		Research Monitoring Committee of TIFAC - DST for Technical Textiles at DKTE Textile Institute, Ichalkaranji.	Chairman
		Research Monitoring Committee of TIFAC - DST for Technical Textiles at Kumarguru College, Coimbatore.	Chairman
4	Dr. R.D. Kale	Society of Dyers and Colorist	Member
		Indian Fibre Society	Life Member
		Cultural Activity Cell of the Institute	Member
		MIS system of the Institute	Member
		Admission Committee of the Institute	Member
		"Shri G.M. Abhyankar Students' Travel Assistance" of the Institute	Member
		Dept of Health Sciences, Maharashtra State	Expert on the committee
5	Dr. Usha Sayed	UDCT Alumni Association	Member
		AATCC	Member
		Academic Council University of Mumbai	Member
		Faculty of Science, University of Mumbai.	Member
		Editorial Advisory Board of International Journal of Advanced Science and Engineering	Member
		Journal of polymer and Environment	Referee
		Nirmala Niketan college for M. Sc. (Home Science) & SNDT	Referee
		Adhoc Committee of Textile Technology (MU)	Chairperson
		National committees • Fibers society of America	Member
		• Alumni Association	Member
		• The Committee for Women's Welfare, Mumbai University.	Member
		• Board of studies Baroda university textile department.	Member
		• AATCC	Member
		• Natural Fibre society, Culcutta	Member
		b) International committees • Fibers society of America	Member

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Sr. No.	Faculty name	Areas of training / development	Trainer Organization and Venue	Date from-to	No. days
1	Dr Ravindra D Kale	Staff Development Programme on Nano Technology & Applications	NTTTR, Bhopal in Pune	11th to 15th March 2013	05
2	Dr Ravindra D Kale	Workshop on Green Chemistry and Sustainable Technology on National Technlogy Day Celebrations	ICT, Mumbai	11th May 2013	01
3	Dr Ravindra D Kale	Workshop on " Modern Trends in Polymer Science and Technlogy-2013" held under TEQIP-II	ICT, Mumbai	3rd April 2013	01
4	Prof. (Dr.) M. D. Teli	Continuing Education & Quality Improvement Programme on " Institution Building through Appreciate Mindset" held under TEQIP-II	IIT, Mumbai	January24 to 4th February 2013	06
5	Prof. (Dr.) Ravindra V. Adivarekar	Continuing Education & Quality Improvement Programme on " Institution Building through Appreciate Mindset" held under TEQIP-II	IIT, Mumbai	January24 to 4th February 2013	06
6	Dr Ravindra D Kale	Continuing Education & Quality Improvement Programme on " Institution Building through Appreciate Mindset" held under TEQIP-II	IIT, Mumbai	January24 to 4th February 2013	06
7	Dr Ravindra D Kale	Continuing Professional Development Programme on "Formulation of Research & Development Initiatives for Scientists and Technologists"	Engineering Staff College of India, Hyderabad, Andhra Pradesh	September 07 to 10, 2015	04

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects
  M.Tech - 100%
  B.Tech - 100%
- percentage of students doing projects in collaboration with other universities industry/institute
  M.Tech – 20%

B. tech – 0%

29. Awards / recognitions received at the national and international level by

Faculty Member	Major Awards
Prof. M. D. Teli	Hon. Fellow of Textile Association of India
Prof. M. D. Teli	Fellow of the Maharastra Academy of Sciences
Prof. M. D. Teli	Academic excellence award given by Textile Association of India in May 2011
Prof. M. D. Teli	Shikshan Ratan Purskar
Prof. S.R. Shukla	Fellow of the Maharastra Academy of Sciences
Prof. S.R. Shukla	Shikshan Ratan Purskar
Dr. S. P. More	DST-INSPIRE Faculty Award

30. Seminars/ Conferences/Workshops organized and the source of funding (National/International) with details of outstanding participants, if any.

Sr. No.	Title
1	Organized TexSummit in INDIA 2012 9th India International Textile Machinery Exhibition on 5th Dec. 2012 at Bombay convention and exhibition centre, Goregaon, Mumbai
2	TECHNICAL SEMINAR -1 on Dyeing of Cotton – "Problem & Remedies" held at KOMBOLCHA, ETHIOPIA on 2nd and 3rd March 2015
3	Global Textile Congress in association with Thailand Convention & Exhibition Bureau (TCEB), on 13th, 14th & 15th February, 2015 at Bangkok, Thailand.
4	Organized three day workshop from 7-9 January 2015 at Dept of Fibres and Textile Processing Tech., ICT on "Process Intensification in Dyeing" for the students of Sophiya College, Mumbai.
5	Technical seminar III (Addis Ababa, Ethiopia) 25th February 2016 to 27th February 2016
6	A one day national seminar on: 'SPORTECH-An Ocean of Opportunities' was conducted by the Department of Fibers and Textile Processing Technology, under TEQIP programme phase II in K.V. Auditorium, ICT on Tuesday, March 15th, 2016 from 8.30 a.m. to 5.30 p.m, in collaboration with Wool Research Association(WRA), Thane.
7	Technical seminar IV (Washing ton Hotel Addis Ababa, Ethiopia) 22nd June 2016 to

	25th June 2016
8	Technical seminar on Process Optimization in Textile Processing, 22-25 June, 2016
9	Awareness seminar II (Pyramid Hotel, Dberezit, Ethiopia Topic- Dawn of Ethiopian Textile Industries on Global Horizon 15th August 2016 to 18th August 2016
10	Organized four day workshop from 14-17 September 2016 At Dept of Fibres and Textile Processing Tech., ICT on "Value addition to Textile products'' for the 22 handloom weavers from Assam, Mumbai
11	Organized TexSummit-2016 International Conference on "Frontiers in Fibres, Textile & Apparel Processing" Monday, December 05, 2016, Venue: Bombay Exhibition Centre, Goregaon,Mumbai.

31. Code of ethics for research followed by the departments

- Institute guidelines are followed.

32. Student profile programme-wise:

Name of the Programme (refer to question no. 4)	**Applications received**	**Selected**		**Pass percentage**	
		Male	Female	Male	Female
M.Tech.	90	67	23	100	100
M. Sc	30*	27	24	100	100
B. Tech (13-15)	161	99	62		
Note : * some applications are directly forwarded from chemistry department, so the applications received are included in that department					

33. Diversity of students :

Name of the Programme (refer to question no. 4)	**% of students from the same university**	**% of students from other universities within the State**	**% of students from universities outside the State**	**% of students from other countries**
M. Tech	55%	20%	15%	10%
M. Sc.	0%	69%	30%	1%
Ph.D Tech	83%	10%	5%	2%
Ph.D (Sci)	80%	10%	10%	-

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

GATE Qualified Student:

Year	Total No. of M.Tech students	No. of GATE qualified M.Tech students
2016-17	15	3
2015-16	16	4
2014-15	20	9
2013-14	18	9
2012-13	15	6
2011-12	15	9

35. Student progression

Student Progression			2012-13	2013-14	2014-15	2015-16	2016-17
UG to PG			32%	43.33%	54.54%	48.57	35%
PG to Ph.D			62.5%	33.33%	38.88%	05.26%	05.88%
Ph.D to Post-Doctoral			-	-	-	-	-
Employed	**Campus Selection**	**UG**	64%	46.66%	24.24%	42.85%	30%
		PG	31.25%	61.11%	61.11%	52.63%	11.76%
	Other than campus recruitment	**UG**	-	-	-	-	-
		PG	-	-	-	-	23.52%

36. Diversity of staff

Percentage of faculty who are graduates of the	
Same university	5
From other universities within the State from	1
Universities from other States from universities	-
outside the country	1

37. Present details of departmental infrastructural facilities with regard to

a) Library

M. M. SHARMA LIBRARY

Library data related to Textile Section

- No of Book volumes of Textile only: **2080**
- Total no of Journal Bound volume of Textile only: **5000**

List of Textile journals

- Indian Journal of Fibre and Textile Research
- Textile Research Journal
- International Dyer
- Journal of the Textile Institute
- Textile Progress
- Coloration Technology
- Journal of Textile Association
- Colourage
- Man-made Textiles in India
- MANTRA

b) Internet facilities for staff and students

- We have well equipped Information Processing Centre which is accessible to all students.
- High speed Internet is also available in the Lab for 24 hours

c) Total number of class rooms : 02

Sr. No.	Room Number	Laboratory Name
1	A-263	Textile Research Laboratory 1
2	A-262	Textile Research Laboratory 2
3	A-265	Textile Research Laboratory 3
4	A-264	Textile Research Laboratory 4
5	A-269	Textile Research Laboratory 5

6	A-145	Textile Research Laboratory 6
7	A-149	Textile Research Laboratory7
8	A-151	Textile Research Laboratory 8
9	A-140	Dye House
10	A-271	Physical Testing Laboratory
11	A-267	Advanced Textile Testing Laboratory 1
12	A-268	Advanced Textile Testing Laboratory 2
13	A-142	Advanced Textile Testing Laboratory 3
14	NA	Advanced Textile Testing Laboratory 4
15	A-143	Textile Chemical Analysis Laboratory
16	A-141	Experimental dyeing Laboratory
17	NA	Textile Chemical Store
18	NA	Textile Lecture Room T 1
19	NA	Textile Lecture Room T 2
20	NA	Textile Composite Laboratory
21	NA	Textile Engineering Laboratory

d) Class rooms with ICT facility – IPC & e-Library

e) Students' laboratories – 08
- Laboratories– 02
- Dye House – 01
- Physical Testing lab – 01
- Advanced Testing lab – 04

f) Research laboratories - 16
- Dye House – 01
- Textile Research Laboratory– 08
- Physical Testing lab – 01
- Advanced Testing lab – 04
- Textile Composite Laboratory– 01
- Textile Engineering Laboratory– 01

38. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university

Postgraduate students' Ph.D. (Tech)

Sr. No.	Research Scholar	Previous Institution	Project	Supervisor
1.	Katode Sanjay	UICT, Mumbai	Sustainable Approach towards Garment Processing	Prof. (Dr.) R.V. Adivarekar
2.	Kherdekar Girish	TITS, Bhiwani	Natural Eco-Friendly Alternatives to the Existing Scouring & Dyeing of Wool & Woolens	Prof. (Dr.) R.V. Adivarekar

3.	Udakhe Jayant	IIT, New Delhi	Synthesis & Application of Far Infrared Reflecting Dyes	Prof. (Dr.) R.V. Adivarekar
4.	HaraneRachana	ICT, Mumbai.	Selective Treatment and Recycling of Textile Effluent	Prof. (Dr.) R.V. Adivarekar
5.	MadiwalePallavi	ICT, Mumbai.	Studies in Medical Textiles	Prof. (Dr.) R.V. Adivarekar
6.	Singh Girendra Pal	ICT, Mumbai.	Studies in Natural Fibre Composite	Prof. (Dr.) R.V. Adivarekar
7.	Biranje Santosh	ICT, Mumbai.	Extraction of Biopolymers and their Modification for Application in Medical Textile	Prof. (Dr.) R.V. Adivarekar
8.	MaitiSaptarshi	ICT, Mumbai.	Studies in graphite for textiles	Prof. (Dr.) R.V. Adivarekar
9.	Mahajan Geetal	ICT, Mumbai.	Fermentation Technology in Textile Wet processing	Prof. (Dr.) R.V. Adivarekar
10.	Desai Pawan	VJTI	Studies in Synthetic Polymers for Sports Textiles Application.	Prof. (Dr.) M. D. Teli
11.	ValiaSanket	ICT	Functionalization of Fibres for Speciality Applications	Prof. (Dr.) M. D. Teli
12.	Mallick Aranya	UDCT, Mumbai	Modification of polymers for enhancement of functional properties	Prof. (Dr.) M. D. Teli
13.	Shukla Armaity	SNDT university	Naturally colored functional Nonwovens	Prof. (Dr.) M. D. Teli
14.	Ambre Pragnya	Dr. B.M.N college SNDT	Combined Dyeing and finishing of natural dyes.	Prof. (Dr.) M. D. Teli
15.	Chavan Pravin	ICT, Mumbai.	Functional modifications for specialty applications in textiles	Prof. (Dr.) M. D. Teli
16.	AnnaldewarBhagyashri	ICT, Mumbai.	Studies in Speciality finishes	Prof. (Dr.) M. D. Teli
17.	MiftaJalaludin	ETIDI, Ethiopia	Studies in Fibrous polymers	Prof. (Dr.) M. D. Teli
18.	Nadiger Vinay G.	VJTI, Mumbai	Studies on Nano-composite Polypropylene Fibres for UV Protective Sports Textile Application	Prof. (Dr.) S. R. Shukla
19.	Vyas Shweta K.	D.K.T.E, Ichalkaranji	Process intensification in textile colouration	Prof. (Dr.) S. R. Shukla
20.	Parmar Neha D.	ICT, Mumbai.	Microbial decolourisation of dyeing effluent	Prof. (Dr.) S. R. Shukla
21.	Jadhav Abhishek	ICT, Mumbai.	Studies in multifunctional auxiliaries	Prof. (Dr.) S. R. Shukla
22.	Arputhraj A.	SSM College	Nanotechnology in textile applications	Prof. (Dr.) S. R. Shukla

23.	Kore Umesh	ICT, Mumbai.	Theoretical aspects of reactive dyeing for process intensification	Prof. (Dr.) S. R. Shukla
24.	PalaskarShital	ICT, Mumbai.	Studies on effect of plasma treatment on different textile fabrics	Dr. R. D. Kale
25.	Thitahme Prasad	ICT, Mumbai.	Application of Activated Carbon in Effluent Treatment	Prof. (Dr.) S. R. Shukla
26.	Gangawane Prashant	ICT, Mumbai.	Finishing of Textiles	Dr. Usha Sayed
27.	Kane Prerana	ICT, Mumbai.	Studies in Non-Conventional Method for Effluent Treatment	Dr. R. D. Kale

Postgraduate students' Ph.D. (Science)

Sr. No.	Research scholar	Previous Institution	Project	Supervisor
1.	Singh Saurabhkumar A.	Khalsa College, Mumbai	Adsorptive separation of strategic and heavy metal ions and process characterization.	Prof. (Dr.) S. R. Shukla
2.	PatilNamata N.	SNDT, Mumbai	Studies on colour removal from waste water	Prof. (Dr.) S. R. Shukla
3.	Musale Rakesh M	SSVPS College, Dhule	Studies in depolymerization of waste poly(ethylene terephthalate) and utilization of the products obtained therefrom	Prof. (Dr.) S. R. Shukla
4.	NautiyalAkanksha	Lady Irwin College, University of Delhi	Process Intensification in Textile Effluent Treatment using Novel Concepts	Prof. (Dr.) S. R. Shukla

Postgraduate students' Ph.D. (Textile Chemistry)

Sr. No.	Research Scholar	Previous Institution	Project	Supervisor
1.	Pallavi Badhe	ICT, Mumbai	Protease production and application in textiles	Prof. (Dr.) R.V. Adivarekar
2.	Pawar Ashitosh	ICT, Mumbai.	Synthesis of Colourants Form Natural Sources	Prof. (Dr.) R.V. Adivarekar
3.	Patil Ashwini	ICT, Mumbai.	High Performance Auxillaries for Textile Substrates	Prof. (Dr.) R.V. Adivarekar
4.	Sutar Trupti	ICT, Mumbai.	Studies in Blood Clotting Materials	Prof. (Dr.) R.V. Adivarekar
5.	Shinde Suvidha	ICT, Mumbai.	Application of Fluorescent Dyes on Textile and Leather	Prof. (Dr.) R.V. Adivarekar

			Substrates	
6.	Ramagude Supriya	ICT, Mumbai	Not yet decided	Prof. (Dr.) R.V. Adivarekar
7.	Pawar Sushant	ICT, Mumbai.	Novel Techniques of coloration	Prof. (Dr.) R.V. Adivarekar
8.	Patankar Kaustubh	Mumbai University, Kalina	Ecofriendly Flame Retardents	Prof. (Dr.) R.V. Adivarekar
9.	Jadhav Akshay	ICT, Mumbai.	Processing of non conventional fibres and their value additions	Prof. (Dr.) M. D. Teli
10.	Latika Bhatt	CCS Haryana Agriculture University, Haryana	Application of essential Oils on Textiles	Dr. R. D. Kale
11.	Vikrant Gorade	ICT, Mumbai.	Application of Micro/Nano Cellulose in Textiles	Dr. R. D. Kale
12.	Jadhav Nilesh	ICT, Mumbai.	Use of Natural Polymers in Green Composites	Dr. R. D. Kale
13.	Potdar Tejasvi Ajit	ICT, Mumbai.	Effluent treatment by naturally occurring materials	Dr. R. D. Kale
14.	Ravikant Sharma	ICT, Mumbai.	Synthesis and Application of Speciality Chemicals	Dr. Usha Sayed
15.	Parte Sneha	ICT, Mumbai.	Studies in non-woven	Dr. Usha Sayed

Degrees Awarded

Sr. No.	Name	Course	Title	Guide
1.	Meena Chetram	PhD (Tech)	Ecofriendly Colouration of Textiles	Prof. (Dr.) R.V. Adivarekar
2.	Tayade Priti	Integrated PhD (Tech)	Extraction, Standardization and Application of Natural Dyes	Prof. (Dr.) R.V. Adivarekar
3.	Joshi Manasi	Ph.D. (Sci.).	Production and Application of Marine Pectinase in Textile Processing	Prof. (Dr.) R.V. Adivarekar
4.	Neha Khurana	Integrated PhD (Tech)	Studies in Technical Textile	Prof. (Dr.) R.V. Adivarekar
5.	Madhura Nerurkar	Ph.D. (Sci.)	Screening of Marine Microorganisms for the Production of Textile Enzymes	Prof. (Dr.) R.V. Adivarekar
6.	K. H. Prabhu	PhD (Tech)	Herbal Colourants For Eco-	Prof. (Dr.) M. D. Teli

			Friendly Textile Processing	
7.	Javed sheikh	PhD (Tech)	Performance enhancement by polymer modification	Prof. (Dr.) M. D. Teli
8.	R D Kale	PhD (Tech)	Studies In Structure-Property Relationship For Improved Performance Of Synthetic Fibres	Prof. (Dr.) M. D. Teli
9.	Kapadi Parag	Ph.D. (Sci.)	Polymers from renewable resources	Prof. (Dr.) S. R. Shukla
10.	Gondhelekar Sachin	Ph.D. (Sci.)	Removal of heavy metals from waste water using bioasorbents	Prof. (Dr.) S. R. Shukla
11.	Borse Bhushan N.	Ph.D. (Sci.)	Production of lipase from microorganism and their application in polyester hydrolysis and in organic reaction	Prof. (Dr.) S. R. Shukla
12.	Parab Yogesh S.	Ph.D. (Sci.)	Chemical recycling of polymeric waste materials	Prof. (Dr.) S. R. Shukla
13.	Shukla Pushkar M.	Ph.D. (Sci.)	Studies on biosorption of metals cations using cheap adsorbents.	Prof. (Dr.) S. R. Shukla
14.	Shah Rikhil V.	Ph.D. (Sci.)	Synthetic reactions and applications of chemically recycled products from polyester waste	Prof. (Dr.) S. R. Shukla
15.	Borude Vasant S.	Ph.D. (Sci.)	Application of ionic liquid in organic synthesis and polymer degradation	Prof. (Dr.) S. R. Shukla
16.	Prashant Gangawane	Ph.D. (Tech)	Advance applications in Textile processing.	Dr. Usha Sayed

b) from other institutions/universities -

No.	Research Scholar	Previous Institution	Project	Supervisor
1.	Ambre Pragnya	Dr. B.M.N college SNDT	Combined Dyeing and finishing of natural dyes.	Prof. (Dr.) M. D. Teli
2.	Shukla Armaity	SNDT university	Naturally colored functional Nonwovens	Prof. (Dr.) M. D. Teli

39. Number of post graduate students getting financial assistance from the university - **No**

40. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.- **No**

41. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback – **Yes**

- **The faculty is member of syllabus revision committee and feedback is utilised for syllabus revision as well as day to day monitoring of teaching and learning programme as and when opportunity exists.**

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback– **Yes**

- **This feedback is collected at Institute level and Higher authorities selectively acton the same.**

c. Alumni and employers on the programmes offered and how does the department utilize the feedback– **Yes**

- **Alumni and employers are members of the Syllabus committee and their opinion is asked and utilised for syllabus revision.**

42. List the distinguished alumni of the department (maximum 10)

Sr. No.	Name	Business
1	Prof. B.D. Tilak –Honoured with Padma Bhushan by President of India.	Research Scientist, Educationist & Administrator
2	Dr. V.M. Nimkar	Founder, Texanlab/ Nimkartek
3	Prof. V.A.Shenai	Renowned Teacher & Author of many Textile Books
4	Prof. M.L. Gulrajani, former Head, IIT(D), Textile Dept.	Education and Research
5	Prof. R.B.Chavan	IIT, Delhi
6	Dr.G.V.G.Rao	President, Atul Ltd.
7	Mr. L.N.Gandhi	Founder, LN Chemicals
8	Mr. A.K.Prasad	Head,Clariant, Paper & Leather Chemicals
9	Mr.Edward Menezes	Director, Rossari Biotech
10	Dr Naresh Saraf	Director, Sarex Overseas
11	Dr. Ashok Sabale	Kusmo Chemicals (Young Enterpreneur)
12	Dr. Ramesh Kabra	Sorbe Biotech India Pvt. Ltd.
13	Mr Chaitanya Joshi	C Tech corporation, Mumbai

43. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

Special lectures-

Sr. No.	Name of speaker	Topic	Date
1	Mr. Deepak Alat	Practical Problems in Finishing of Textiles	27th august 2012
2	Mrs. Lipika Nair	Testing of Textiles and Its Importance	27th September 2012
3	Dr. Amit Bhattacharya	Antimicrobial on Textiles	11th October 2012
4	Dr. Somil Mehta	Auxiliaries in textile Processing	11th October 2012
5	Dr. Kapil Joshi	New development in Nanoscale IR, Thermal and Mechanical Spectroscopy with an AFM	22nd November 2012
6	Dr. Kartick Samanta	Plasma Application in Textile	28th December 2012
7	Dr. Prasad Potluri	Medical Devices to Aerospace Materials: Research Opportunities for Fibre Science and Textile Technology	12th July 2013
8	Dr. Siva Rama Kumar Pariti	Ecological Considerations of Colorants for Textile Applications	2nd September 2013
9	Dr. Imtiyaz Ansari	Surface modification using Dendritically functionalised polymers	4th January 2014
10	Mr. Amogh Lokhande	Effective Literature Survey	15th January 2014
11	Prof. Sandra Downes	Developing novel biomaterials using nanotechnology	20th January 2014
12	Mr. Prashant Shah & Mrs. Purnima Parkhi	Elemental & Molecular Spectroscopy in Textile Industry	22nd January 2014
13	Ms. Amruta Datar	Higher education opportunities in France	24th January 2014
14	WRA Staff	Workshop on “Awareness of Sport Textile”	27th and 28th January 2014
15	Prof. Rishi Jamdagni	Textile - A road map to 2025 and globalization	30th January 2014

16	Mr. Vedprakash Shukla	Handling Indusrtial Problems – 3M's	28th Feb, 1st&28th March and 4th April
17	Mr. Zak Reese	Biophysical Instruments	15th April 2014
18	Dr. S. K. Bhullar	Smart Nano/Micro fibrous Structure-Biomedical applications	13th January 2015
19	Dr. B. A. Gowri Shankar	Isolation and characterization of toxins acting on voltage-dependent sodium channels from several snake and cone snail venoms.	12th June 2015
20	Dr. A. V. Joshi	A short course in chromatographic techniques	15th June 2015 to 19th June 2015
21	Mr. Man Mohan Kohli	Career and Education Opportunities abroad	21th October 2015
22	Dr. Anil Netravali, Jean and Douglas McLean	Green Materials & Processes: From Advanced Composites to Nano-filters & From Wound Healing to Hair Styling	11th January 2016
23	Dr. Juan Hinestroza	Teaching cotton new tricks by manipulation of Nanoscale phenomena	18th January 2016
24	Mr. Milind Amerkar,	Listening Skills	8th September 2016
25	Mr. Lalit Khurana	Importance of Soft Skills	8th September 2016

Workshops–

Sr. No.	Title
1	Organized TexSummit in INDIA 2012 9th India International Textile Machinery Exhibition on 5th Dec. 2012 at Bombay convention and exhibition centre, Goregaon, Mumbai
2	TECHNICAL SEMINAR -1 on Dyeing of Cotton – "Problem & Remedies" held at KOMBOLCHA, ETHIOPIA on 2nd and 3rd March 2015
3	Global Textile Congress in association with Thailand Convention & Exhibition Bureau (TCEB), on 13th, 14th & 15th February, 2015 at Bangkok, Thailand.
4	Organized three day workshop from 7-9 January 2015 at Dept of Fibres and Textile Processing Tech., ICT on "Process Intensification in Dyeing" for the students of Sophiya College, Mumbai.
5	Technical seminar III (Addis Ababa, Ethiopia) 25th February 2016 to 27th February 2016
6	A one day national seminar on: 'SPORTECH-An Ocean of Opportunities' was conducted by the Department of Fibers and Textile Processing Technology, under TEQIP programme phase II in K.V. Auditorium, ICT on Tuesday, March 15th, 2016 from 8.30 a.m. to 5.30 p.m, in collaboration with Wool Research Association(WRA), Thane.

7	Technical seminar IV (Washing ton Hotel Addis Ababa, Ethiopia) 22nd June 2016 to 25th June 2016
8	Technical seminar on Process Optimization in Textile Processing, 22-25 June, 2016
9	Awareness seminar II (Pyramid Hotel, Dberezit, Ethiopia Topic- Dawn of Ethiopian Textile Industries on Global Horizon 15th August 2016 to 18th August 2016
10	Organized four day workshop from 14-17 September 2016 At Dept of Fibres and Textile Processing Tech., ICT on "Value addition to Textile products'' for the 22 handloom weavers from Assam, Mumbai
11	Organized TexSummit-2016 International Conference on "Frontiers in Fibres, Textile & Apparel Processing" Monday, December 05, 2016, Venue: Bombay Exhibition Centre, Goregaon,Mumbai.

44. List the teaching methods adopted by the faculty for different programmes.

The interactive teaching methodology implemented ensures direct information transfer from course teacher to students. Student projects and seminar presentations, various modes of continuous assessment such as MCQ tests, Quiz, group discussion, case studies, industrial visits etc helps students to develop interpersonal skills, subject knowledge, team work, problem solving approach.

45. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

The impact of delivery of course and course content is assessed in two ways:

(1) examination/evaluation conducted by course teacher
(2) Students' feedback about teacher and course

Teachers' Evaluation: The weightage of different modes of assessments is done as under.

	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), group assignments, viva-voce assignments, discussions
Practicals	50%	-	50%	Attendance, viva -voce, journal, assignments, project, experiments, tests

This two way communication helps to improve students as well as teachers and modify the course content (if necessary) which help in attaining POs.

46. Highlight the participation of students and faculty in extension activities.

Delivered a lecture **Conferences/Seminars/Winter/Summer Schools Attended-**

Prof. (Dr.) R. V. Adivarekar

1. Delivered a lecture at Unilever R&D, Unilever Industries Private Limited, Bangalore on 29th July 2011 on the topic, "Natural Colourants".
2. Paper presented on "Dyeing of Silk with natural dye from *Serratia marscecens subsp marscecens*", at International Conference on International Congress on environmental Research [ICER-2011], held on 15th -17th December 2011 at Sardar Vallabhbhai Institute of National Technology, Surat, Gujarat. at Raymond Ltd., Vapi on 15th March 2012 on the topic, "Latest Developments covering chemistry of reactive Dyes and wool dyeing".
3. Presented poster on use of lipase in detergents at New horizons in Biotechnology organized by BRSI, on 11th -14th November 2012, at Trivandrum
4. Poster presented on "Dyeing of Natural Fibres with a Red Pigment produced by *Streptomyces coelicolor*" atInternational Conference on Advances in Biological Sciences, 15th -17th March 2012 at Kairali Heritage, Kannur, Kerala.
5. Poster presented on **"**Utilization of *Citrus limetta*[sweetlime] peels as a substrate for pectinase production by marine *Bacillus subtilis*atInternational Conference on Advances in Biological Sciences, 15th -17th March 2012 at Kairali Heritage, Kannur, Kerala.
6. Paper presented on, "A frugal way of reusing wastewater in textile pretreatment process", 7th International Congress of Environmental Research, 2014, at Bangalore, India.
7. Poster presented on," Protease from *Bacillus Subtilis*-An efficient bio scouring tool", at Third Global Sustainable Biotech Congrss 2014, 1-5 Dec 2014, at Jalgoan, India.
8. Paper presented on, "Preparation and characterization of Microcrystalline cellulose from Renewable source" at Fourth international conference on Natural polymers, Biopolymers, Biomaterials, their composites, nano composites, blends, IPNs, Ployelectrolytes, and gels: micro to nanoscales, 2015 at Kottyam, Kerala, India.
9. Presented paper on, "Multifunctional finishing of textile" at Global textile congress, 2015, at Bangkok, Thailand.
10. Presented paper on, "Dendrimer pre-treatment for salt-less reactive dyeing of cotton at acidic pH", at Fourth International conference on Cotton, Textile and Apparel Value Chain in Africa (CTA-2015), 1-2 May 2015, at Ethiopia.
11. Organized Refresher course I on, "The Principles and Practical aspects of setting up pilot processing plant for demonstration, training, and R & D purpose in, university, skill, centres and institutions in Ethiopia" at ETIDI, Addis Ababa underTwining Partnership between ETIDI and ICT on 1st December 2014.
12. Organized Refresher course II on, "Textile Fibres" in Ethiopia at ETIDI, Addis Ababa underTwining Partnership between ETIDI and ICT on 29th December 2014.
13. Organized Seminar on, "Dyeing of Cotton: Problems and Remedies" at Kombalchain Ethiopia at ETIDI, Addis Ababa underTwining Partnership between ETIDI and ICT on 3rd and 4th March 2015.
14. Organized Refresher Course III on, "Chemistry of Dyes and Auxiliaries- *from Dyers perspective*" held at ETIDI, Addis Ababa under Twining Partnership between ETIDI and ICT from March 16, 2015 to March 20, 2015.
15. Organized Refresher Course IV on, "Chemical Aspects of Pre-treatment of Textiles" held at ETIDI, Addis Ababa under Twining Partnership between ETIDI and ICT from April 14, 2015 to April 17, 2015.
16. Guest Lecture under the TEQIP Phase-II by Dr. S.K.Bhullar on the topic, "Smart Nano/Micro fibrous Structure-Biomedical Applications", 13th January 2015

17. Guest Lecture under the TEQIP Phase-II by Dr. B. A. Gowri Shankar) on the topic, "Isolation and characterization of toxins acting on voltage-dependent sodium channels from several snake and cone snail venoms." held on 12th June 2015.
18. Guest Lecture Series under the TEQIP Phase-II by Dr. A. V. Joshi (Industry Expert and Visiting Faculty to ICT) on the topic, "A short course in chromatographic techniques", held from 15th June 2015 to 19th June 2015.
19. Texquest 2015, Annual National Level Intercolligiate Technical Competition
20. Texpression 2015, Annual Cultural Event of the Department
21. Paper presented on, "Reuse of crude scouring and bleaching wastewater for desizing a grey cotton woven fabric'", at International Conference on Advances in Functional, Smart and Innovative Textiles (AFSIT-2015), 10-12 dec 2015, at PSG Institute of Advanced Studies, PSG Coimbatore.
22. Paper presented on, "Optimization of low temperature bleaching of cotton using statistical modelling", at International Conference on Advances in Functional, Smart and Innovative Textiles (AFSIT-2015), 10-12 dec 2015, at PSG Institute of Advanced Studies, PSG Coimbatore
23. Paper presented on, "Colourants from the microbial sources for: A Study from the perspective of Universal Human Values", at 1st International Conference on Universal Human Values, 11-12 June, 2016, at Bahai Academy, Panchgani.
24. Paper presented on, "A study of the impact of polyester dyeing with natural dye using eco friendly technique", at 1st International Conference on Universal Human Values, 11-12 June, 2016, at Bahai Academy, Panchgani.
25. Paper presented on, "Application of Acid Dye on Cotton through Cationisation Process by PAMAM Dendrimer treatmentconference on Macromolecules: Synthesis, Morphology, Processing, Structure, Properties and Applications", at International conference on Macromolecules: Synthesis, Morphology, Processing, Structure, Properties and Applications" (ICM-2016), 13th to 15th May 2016, at Kerala.
26. Paper presented on, "Characterization of fibre extracted from Saccharum Munja Grass", at Rangostav-2016, 19-20 Jan-2016, at ICT, Mumbai.
27. Paper presented on, "Revamping: Traditional vs Conventional pretreatment processes", at Fibre Society Technical Conference and Fall meeting 2016 , Cornell University, USA, 10 - 12th October, 2016, at Cornell University, U.S.A.
28. Paper presented on, "Chemical modification of ancient natural dye for textile bulk dyeing", at International Conference on Contemporary Issues in Science, Engineering and Management ICCI-SEM-2K17, 18-19 feb 2017, at GIFT, Odisha.
29. Paper presented on, "Eco-friendly polyester dyeing with *croton oblongifolius*", at International Conference on Contemporary Issues in Science, Engineering and Management ICCI-SEM-2K17, 18-19 feb 2017, at GIFT, Odisha.
30. Paper presented on, "Preparation and characterization of Chitosan/PVA polymeric film for its potential application as wound dressing material", at International Conference on Contemporary Issues in Science, Engineering and Management ICCI-SEM-2K17, 18-19 feb 2017, at GIFT, Odisha.
31. Paper presented on, "Preparation and Characterization of Microcrystalline Cellulose (MCC)from Renewable SourceEnzyme-Assisted Isolation of Micro Fibrillated Cellulose (MFC)From Saccharum Munja Fibre And Its Characterization", at International Conference on Contemporary Issues in Science, Engineering and Management ICCI-SEM-2K17, 18-19 feb 2017, at GIFT, Odisha.

Prof. (Dr.) M. D. Teli

1. Presented Paper on "Application of Waste grains for useful applications in Textile M.D.Teli and Javed Sheikh" in 24th National Convention of Textile Engineers on "Textile and Apparel

industry: Contemporary issues to address in coming years" at Bangalore on 19-20 August 2011.

2. Presented Paper on "Modification of bamboo rayon to render it cationic dyeable and antibacterial M.D.Teli and Javed Sheikh" in International conference on "Textiles: A decade ahead" Organized bty NISTI and IIT Delhi" at PHD House, New Delhi on 9-10 Sept 2011.
3. Presented Paper on "R & D in Chemical Processing of Cotton M.D.Teli" World Cotton Research Conference-5 organized by ISCI, ICAR and ICAC" at Mumbai on 7-11 Nov. 2011.
4. Presented Paper on "Extraction of chitosan from shrimp shells and application in simultaneous pigment dyeing and antibacterial finishing of denim M.D.Teli and Javed Sheikh" in ATNT 2011" KCT, Coimbatore on 15-17th dec 2011.
5. Chaired a session at 53rd Joint Technological Conference of BTRA, SITRA, NITRA, ATIRA. at BTRA, Mumbai 17-18 Feb 2012
6. Delivered Key note address at "Italian Textile Machinery Workshop" organized in Mumbai Mumbai 2012.
7. Delivered lecture as Chief Guest SDC Seminar held in Thane March 2012.
8. Presented lecture on," Some of our Experience in R&D of King Cotton", at International Conference on Natural Fibres (Theme: Jute & Allied Fibres), 1-3 August 2014, at Kolkata.
9. Poster presented on," Recycling of Terry Towel (Cellulosic) waste into Carboxy Methyl Cellulose (CMC) for textile printing", at International Conference on Natural Fibres (Theme: Jute & Allied Fibres), 1-3 August 2014, at Kolkata.
10. Oral presentation on," Extraction and characterization of Aselmoschusmanihot lignocellulosic fiber", at International Conference on Natural Fibres (Theme: Jute & Allied Fibres), 1-3 August 2014, at Kolkata.
11. Poster presentation on," Low temperature dyeing of silk using atmospheric plasma treatment", at International Conference on Natural Fibres (Theme: Jute & Allied Fibres), 1-3 August 2014, at Kolkata.
12. Poster presentation on," Acid Dyeing of silk using atmospheric plasma treatment", at International Conference on Natural Fibres (Theme: Jute & Allied Fibres), 1-3 August 2014, at Kolkata.
13. Invited lecture on," "Innovative product developments from natural fibres", at Workshop on Design and Technology Intervention in Natural Fibre Product Innovation, 22nd – 23rd July 2014, at National Institute of Design, PG campus Gandhinagar.
14. Paper presentation on," Sustainiblity based upcycling and value addition of textile apparels,Multidisciplinary Innovation for sustainiblity and growth (MISG 2014), 27-28 August 2014, at Kuala Lumpur.
15. Paper presented on," In-situ Synthesis and Application of Cerium Oxide Nanoparticles on Cotton Fabric for UV protection and antibacterial properties", at International Symposium on Fiber Science and Technology (ISF2014), 29 Sept – 1 Oct 2014, at Tokyo Fashion Town, Tokyo.
16. Paper presented on, "Polypropylene/ Poly-TrimethyleneTerapthalatepolyblend fibres – Structure, Processing and Dyeability", at ICR Symposium on Polymer Crystals 2014 (ICRSPC 2014), 2 OCT 2014, at Mielparque, Kyoto.
17. Paper presented on," Polyurethane Based Nanocomposite Coatings For Enhanced Gas Barrier Property", at Kyoto International Symposium on Neo Fiber Technology 2014, at Kyoto Institute of Technology, Kyoto.
18. Paper presented on, "Effect of Compatibilizer on Structure of PP/PTT Polyblend fibers", at Kyoto International Symposium on Neo Fiber Technology 2014, 3 OCT 2014, at Kyoto Institute of Technology, Kyoto.
19. Paper presented on, "Grafting of butyl acrylates on to banana fibres for improved oil

absorption", at The 89th Textile Institute World Conference – Textile Innovations from Fibre to Fashion, 2-6 Nov 2014, at Wuhan, China.

20. Paper presented on,"Building sustainable value chain in Textiles Processing", at 12th International & 70th All India Textile Conference Cotton, Textile & Apparel Value & Supply Chain: Global Opportunities & Challenges! 17th -18th January 2015, at Nagpur.
21. Paper presented on," Application of Atmospheric Plasma Technology", at 12th International & 70th All India Textile Conference Cotton, Textile & Apparel Value & Supply Chain: Global Opportunities & Challenges! 17th -18th January 2015, at Nagpur.
22. Paper presented on," Organic Cotton: For profit, planet & people", at 12th International & 70th All India Textile Conference Cotton, Textile & Apparel Value & Supply Chain: Global Opportunities & Challenges! 17th -18th January 2015, at Nagpur.
23. Paper presented on," Sustainability in textile and role of innovation", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
24. Paper presented on," Insitu synthesis of cerium nanoparticles on cotton fabric by hydrothermal method", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
25. Paper presented on, "Development of multifunctional cotton", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
26. Paper presented on, "Application of low cost sustainable fibrous materials for combating water pollution", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
27. Paper presented on, "Development of compound shades on natural fibres using marigold and sappanwood", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
28. Paper presented on, "Nanoclays for enhancing properties of polypropylene of polyblend fibres", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
29. Paper presented on, "Low temperature dyeing of silk using atmospheric plasma", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
30. Paper presented on, "Dyeing of Banana fibre with natural dyes", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
31. Paper presented on, "Upcycling of textiles", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
32. Paper presented on, "Production of absorbent material by modifying unconventional polysaccharides", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
33. Paper presented on, "Printing of lables using natural dyes", at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
34. Paper presented on," Application of gelatin based microcapsules containing mosquito repellents oils on cellulose biopolymer", at Fourth International conference on natural polymers and biomaterials, 10-12 April 2015, at Kottayam.
35. Paper presented on,"Extraction and characterization of novel lignocellulosic fibre", at Fourth International conference on natural polymers and biomaterials, 10-12 April 2015, at Kottayam.
36. Paper presented on," Optimization of Plasma modification for low temperature dyeing of silk fabric", at Fourth International conference on natural polymers and biomaterials, 10-12 April 2015, at Kottayam.
37. Paper presented on, "Global cotton textile and apparel business and Africa's position", at Fourth International conference on Cotton, Textile and Apparel Value Chain in Africa (CTA-2015), 1-2 May 2015, at Bahir Dar University, Ethiopia.
38. Paper presented on, "Encapsulation of Aroma and its application on cotton to impart mosquito repellency", at Fourth International conference on Cotton, Textile and Apparel Value Chain in Africa (CTA-2015), 1-2 May 2015, at Bahir Dar University, Ethiopia.
39. Paper presented on, "Sustainability in Textile wet processing and some of our research Experiences", at Fourth International conference on Cotton, Textile and Apparel Value Chain in Africa (CTA-2015), 1-2 May 2015, at Bahir Dar University, Ethiopia

40. Paper presented on, “Multifunctionalised silk using streculia foetida fruit shell waste”, at 2nd international conference on Advances in Functional Smart & Innovative Textiles AFSIT-2015, 10-12 dec 2015, at PSG Institute of Advanced Studies, PSG Coimbatore.
41. Paper presented on, “Functional modification of coir fibre for enhanced oil.”, at 13th Asian Textile Conference, 3-6 Nov 2015, at Geelong Australia.
42. Paper presented on, “Development of hygienic cotton using cotton peels”, at International conference on Redefining Textiles: Cutting Edge technology of the future, 8-10 april 2016, at NIT Jalandhar
43. Paper presented on, “The Impact of Upcycled and Low Cost Textile Apparels to Meet the Needs of Poor Aspirants”, at 1st International Conference on Universal Human Values, 11-12 June, 2016, at Bahai Academy, Panchgani.
44. Paper presented on, “Utilization of Unconventinal Fibres to Combat Oil Spill and Help Rural Economy”, at 1st International Conference on Universal Human Values, 11-12 June, 2016, at Bahai Academy, Panchgani.
45. Paper presented on, “Value Based Biopolymeric Absorbents for Low Cost Sanitary Napkins”, at 1st International Conference on Universal Human Values, 11-12 June, 2016, at Bahai Academy, Panchgani.
46. Paper presented on, “Application of Enzymes to Textile Wet Processing for Sustainibility”, at 1st International Conference on Universal Human Values, 11-12 June, 2016, at Bahai Academy, Panchgani.
47. Paper presented on, “Pomegranade Rind - A Sustainable Avenue for Employment Generation in Arid or Drought Prone Regions of India”, at 1st International Conference on Universal Human Values, 11-12 June, 2016, at Bahai Academy, Panchgani.
48. Paper presented on, “Sustainability”, at World textile Conference-2, 11-12 June, 2016, atMumbai.

Prof. (Dr.) S. R. Shukla

1. Presented Paper at IIT Roorkee 2011 titled with “Adsorption of heavy metal ions with peanut husk carbon”.
2. Paper presented at Thadomal Shahni College of engineering in Chemergence 2011 on “Adsorption of heavy metal ions with peanut husk carbon”.
3. Presented Poster at “AFFINITY” MIT, Pune 2011 titled with “Green chemistry: a global solution”.
4. Attended 2nd International Conference on recycling and reuse of materials and products, Kottayam, Kerala in 2011.
5. Presented Paper at IIT Roorkee 2012 titled with “Energy saving in Cooling tower”.
6. Presented Paper at “AZEOTROPHY”, IIT Mumbai, Mumbai 2012 on topic “Dye decolorization by laccase produced from coriolus versicolor in combination with UV/H2O2 technique.”
7. Presented Paper at IIT Mumbai 2012 titled with “Dye decolorisation by using laccase enzyme produced from fungi”.
8. Presented Paper at a National Conference on “Energy management and Alternate sources of Energy 2012” at ThadomalShahni college of engineering, Mumbai.
9. Presented paper at IIT ROORKEE on Dye decolorisation by laccase produced from corgholus versicolour in combination with UV/H2O2 technique.
10. Presented Paper at “AZEOTROPHY”, IIT Mumbai, Mumbai 2012 on topic “Dye decolorization by laccase produced from coriolus versicolor in combination with UV/H2O2 technique.”

11. Presented paper at “COGNIZANCE” IIT Roorkee, Roorkee 2012 on research topic “Colour removal from textile effluent using biological method.”
12. Presented Paper at “AZEOTROPHY”, IIT Mumbai, Mumbai 2012 on topic “Dye decolorization by laccase produced from coriolus versicolor in combination with UV/H2O2 technique.”
13. Presented paper at “COGNIZANCE” IIT Roorkee, Roorkee 2012 on research topic “Colour removal from textile effluent using biological method.”
14. Attended the 12th Orientation Programme in Catalysis Research From 19th Nov. to 6th Dec. 2011 at National Centre for Catalysis Research Indian Institute of Technology Madras, Chennai.
15. Attended PLAST INDIA 2012 at PragatiMaidan, New Delhi.
16. Attended 2nd International Conference on recycling and reuse of materials and products, Kottayam, Kerala in 2011.
17. Presented Poster at DAE-BRNS Biennial Symposium on Emerging Trends in Separation Science and Technology (SESTEC-2012) , SVKM Mithibai College, Mumbai on ‘’Biosorption of Uranium (VI) solution from aqueous medium by Citrus limetta peels.’’
18. Presented Poster at DAE-BRNS Biennial Symposium on Emerging Trends in Separation Science and Technology (SESTEC-2012) , SVKM Mithibai College, Mumbai on “Efficient removal of heavy metals by chemically modified coir fibres”.
19. Paper presented on,” Lean manufacturing practices in garment manufacturing units: An appraisal”, at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
20. Paper presented on,” Comparative evaluation of the various methods of degumming of eri silk”, at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
21. Paper presented on,” Weight reduction of polyester fabric using ionic liquid as additive to NaOH”, at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
22. Paper presented on,” Energy conservation in textile wet processing using ultrasound technique”, at Global Textile Congress-2015, 13-15 Feb 2015, at Bangkok.
23. Paper presented on,” Energy conservation in textile wet processing using ultrasound technique”, at Cotton, Textile and Apparel Value Chain in Africa (CTA 2015), May 2015,at Bahir Dar, Ethiopia.

Dr. R. D. Kale

1. Paper presented on “Synthesis of Titanium dioxide Nanoparticles and application on Nylon fabric by layer by layer Technique for Antimicrobial Property” at VASTRA’11, held on 18th February 2011, at V.J.T.I., Matunga, Mumbai.
2. Paper presented on “Synthesis and application of ZnO Nanoparticles on Nylon fabric by LbL Technique for Antimicrobial Property” at Golden Jubilee Young Researcher’s Symposium on Emerging Trends in Textile/ Fibre Research & applications , held on 11th& 12th March 2011, at IIT, Delhi.
3. Paper presented on, “Mosquito Repellent Textiles”, at DST FIST review meeting, 27th September 2014, at ICT, Mumbai.
4. Paper presented on, “Decolourization of textile effluents using nanoparticles”, at DST FIST review meeting, 27th September 2014, at ICT, Mumbai.
5. Paper presented on, “Past, Present and Future of Technology- status in Finishing”, at Annual conference of ETIDI, Ethiopia, 10 to 11 October 2014, at ETIDI, Adis Ababa Ethiopia.
6. Paper presented on, “Decolourization of C. I. Reactive Black 5 by PVP Stabilized Iron nanoparticles”, at International conference Advances in Chemical Engineering & Technology ICACE TKMCE '14, 6-18 October 2014, at Department of Chemical Engineering,

ThangalKunjuMusaliar College of Engineering, Kollam, Kerala.

7. Paper presented on, “Decolourization of C. I. Reactive Blue 21 by PVP stabilized Nickel nanoparticles”, at International Conference on "Effects of Emissions & Effluent on Environment"-2014, 30th June and 1st July 2014, at AU College of Engineering (A), Visakhapatnam, Andhra Pradesh.
8. Paper presented on, “Dyeing of Polyester-Wool Blend using Nanoemulsion Technique”; at Indo-Czech International Conference (ICIC2014) on Advancements in Specialty Textiles and their Applications in Material Engineering and Medical Sciences, 29th & 30th April 2014, at AU College of Engineering (A), Visakhapatnam, Andhra Pradesh.
9. Paper presented on,” Dyeing of Polyester-Wool Blend using Nanoemulsion Technique”, at Indo-Czech International Conference (ICIC2014) on Advancements in Specialty Textiles and their Applications in Material Engineering and Medical Sciences, 29th & 30th April 2014, at Kumaraguru College of Technology, Coimbatore.
10. Paper presented on,” Decolourization of Effluent using nano particles”, AATCC’s 2014 International Conference, April 1-3 2014, at Crowne Plaza Resort in Asheville, North Carolina USA.
11. Paper presented on, “Textile Fibres”, at Refresher course for ETIDI staff in Ethiopia, 29 Dec 2014 to 2 Jan 2015, at ETIDI, Adis Ababa in Ethiopia.
12. Presentation on, “Advances in Textile Characterization”, at CIRCOT, 16 to 20 March 2015, at Mumbai, India.
13. Presentation on ,“Technotex-2015”, at 4th International Exhibition and Conference on Technical Textiles “Technotex-2015” formal, 9 to 11 April 2015, at Bombay Exhibition Centre, Goregaon, Mumbai, India.
14. Paper presentation on,” Opportunities and Challenges in an Integrated World”, at Global Textile conference on “Global Textiles:”Opportunities and Challenges in an Integrated World”, 13 to 15 Feb 2015, at Bangkok, Thailand.
15. Paper presentation on,” Sustainable Innovations in Colouration organized by Society of Dyers and Colourist”, at National Conference 2014 on the theme of "Sustainable Innovations in Colouration" organized by Society of Dyers and Colourist, 6th June 2014, at Textile Committed, Worli, Mumbai.
16. Presentation on, “Design & Degree Show (DDS 2014)", at Design & Degree Show (DDS 2014), 27- 29 June 2014, Industrial Design Centre, IIT, Mumbai.

Dr. U. Sayed

1. Presented poster on Antisoiling finish of polyester fibre at Fibre society, AATCC & national textile conference joint synporium, 11-14 oct 2011 held at Francis Marino, hotel charleston S.C. USA
2. Presented poster on Biomimicking of enzymes for textile processing at Fibre society, AATCC & national textile conference joint synporium, 11-14 oct 2011 held at Francis Marino, hotel charleston S.C. USA
3. Paper presented on, “Application of variously produced nanoparticles of, Cu, Ag and Chitosan on Textile substrates to produce functional Textiles”, at UTIB R & D brokerage Event, Turkey, 3-4 April 2014, at Turkey.
4. Paper presented on, “Water soluble chitosan and its derivatives, nano chitosan on textile substrates to obtain medical, smart and functional textiles”, at UTIB R & D brokerage Event, Turkey, 3-4 April 2014, at Turkey.
5. Paper presented on, “Application and production of nano-ZnO on synthetics to produce functional textiles”, at UTIB R & D brokerage Event, Turkey, 3-4 April 2014, at Turkey.
6. Paper presented on, “Application of dyes sensitized solar cells (DSSC) on textiles”, at UTIB R & D brokerage Event, Turkey, 3-4 April 2014, at Turkey.

7. Paper presented on, “Design and synthesis of noval antimicrobial textiles based on 2-Azaonthraquinone moiety”, at UTIB R & D brokerage Event, Turkey, 3-4 April 2014, at Turkey.
8. Paper presented on, “Phosphorus containing grapheme derivatives as a flame retardant for textile fibres”, at UTIB R & D brokerage Event, Turkey, 3-4 April 2014, at Turkey.
9. Paper presented on, “Best use of waste tetracycline hydrochloride for textile Colouration”, at UTIB R & D brokerage Event, Turkey, 3-4 April 2014, at Turkey.

47. Give details of “beyond syllabus scholarly activities” of the department.

Guest Lectures-

Sr. No.	Name of speaker	Topic	Date
1	Mr. Deepak Alat	Practical Problems in Finishing of Textiles	27th august 2012
2	Mrs. Lipika Nair	Testing of Textiles and Its Importance	27th September 2012
3	Dr. Amit Bhattacharya	Antimicrobial on Textiles	11th October 2012
4	Dr. Somil Mehta	Auxiliaries in textile Processing	11th October 2012
5	Dr. Kapil Joshi	New development in Nanoscale IR, Thermal and Mechanical Spectroscopy with an AFM	22nd November 2012
6	Dr. Kartick Samanta	Plasma Application in Textile	28th December 2012
7	Dr. Prasad Potluri	Medical Devices to Aerospace Materials: Research Opportunities for Fibre Science and Textile Technology	12th July 2013
8	Dr. Siva Rama Kumar Pariti	Ecological Considerations of Colorants for Textile Applications	2nd September 2013
9	Dr. Imtiyaz Ansari	Surface modification using Dendritically functionalised polymers	4th January 2014
10	Mr. Amogh Lokhande	Effective Literature Survey	15th January 2014

11	Prof. Sandra Downes	Developing novel biomaterials using nanotechnology	20th January 2014
12	Mr. Prashant Shah & Mrs. Purnima Parkhi	Elemental & Molecular Spectroscopy in Textile Industry	22nd January 2014
13	Ms. Amruta Datar	Higher education opportunities in France	24th January 2014
14	WRA Staff	Workshop on "Awareness of Sport Textile"	27th and 28th January 2014
15	Prof. Rishi Jamdagni	Textile - A road map to 2025 and globalisation	30th January 2014
16	Mr. Vedprakash Shukla	Handling Indusrtial Problems – 3M's	28th Feb, 1st&28th March and 4th April
17	Mr. Zak Reese	Biophysical Instruments	15th April 2014
18	Dr. S. K. Bhullar	Smart Nano/Micro fibrous Structure-Biomedical applications	13th January 2015
19	Dr. B. A. Gowri Shankar	Isolation and characterization of toxins acting on voltage-dependent sodium channels from several snake and cone snail venoms.	12th June 2015
20	Dr. A. V. Joshi	A short course in chromatographic techniques	15th June 2015 to 19th June 2015
21	Mr. Man Mohan Kohli	Career and Education Opportunities abroad	21th October 2015
22	Dr. Anil Netravali, Jean and Douglas McLean	Green Materials & Processes: From Advanced Composites to Nano-filters & From Wound Healing to Hair Styling	11th January 2016
23	Dr. Juan Hinestroza	Teaching cotton new tricks by manipulation of Nanoscale phenomena	18th January 2016
24	Mr. Milind Amerkar,	Listening Skills	8th September 2016
25	Mr. Lalit Khurana	Importance of Soft Skills	8th September 2016

Workshops-

Sr. No.	Title

1.	Organized TexSummit in INDIA 2012 9th India International Textile Machinery Exhibition on 5th Dec. 2012 at Bombay convention and exhibition centre, Goregaon, Mumbai
2.	TECHNICAL SEMINAR -1 on Dyeing of Cotton – "Problem & Remedies" held at KOMBOLCHA, ETHIOPIA on 2nd and 3rd March 2015
3.	Global Textile Congress in association with Thailand Convention & Exhibition Bureau (TCEB), on 13th, 14th & 15th February, 2015 at Bangkok, Thailand.
4.	Organized three day workshop from 7-9 January 2015 at Dept of Fibres and Textile Processing Tech., ICT on "Process Intensification in Dyeing" for the students of Sophiya College, Mumbai.
5.	Technical seminar III (Addis Ababa, Ethiopia) 25th February 2016 to 27th February 2016
6.	A one day national seminar on: 'SPORTECH-An Ocean of Opportunities' was conducted by the Department of Fibers and Textile Processing Technology, under TEQIP programme phase II in K.V. Auditorium, ICT on Tuesday, March 15th, 2016 from 8.30 a.m. to 5.30 p.m, in collaboration with Wool Research Association(WRA), Thane.
7.	Technical seminar IV (Washing ton Hotel Addis Ababa, Ethiopia) 22nd June 2016 to 25th June 2016
8.	Technical seminar on Process Optimization in Textile Processing, 22-25 June, 2016
9.	Awareness seminar II (Pyramid Hotel, Dberezit, Ethiopia Topic- Dawn of Ethiopian Textile Industries on Global Horizon 15th August 2016 to 18th August 2016
10.	Organized four day workshop from 14-17 September 2016 At Dept of Fibres and Textile Processing Tech., ICT on "Value addition to Textile products'' for the 22 handloom weavers from Assam, Mumbai
11.	Organized TexSummit-2016 International Conference on "Frontiers in Fibres, Textile & Apparel Processing" Monday, December 05, 2016, Venue: Bombay Exhibition Centre, Goregaon,Mumbai.

- Industrial Visits

Company name	Sector	Incorporation status	Discipline	Date From	Date to	Number of students
CIRCOT	Textile Research	Govt. Body	Textile	04-08-2012	04-08-2012	30
Venus Indusrties	Textile Processing	Private	Textile	13-02-2014	13-02-2014	30
Oswal F.M. Hammerle Textiles Limited	Textile Processing	Private	Textile	11-02-2014	11-02-2014	30
Owens Corning Taloja	Technical Textile	Private	Textile	04-03-2014	04-03-2014	50
Nahar Industries, HP	Textile Processing	Private	Textile	09-04-2014	10-04-2014	35
Intertek India Pvt. Ltd, Mumbai	Textile Laboraotry	Private	Textile	26-02-2014	26-02-2014	35

Century RayonsLtd.,Mumbai	Textile Processing	Private	Textile	1/31/2015	1/31/2015	25
DKTE Centre of Excellence in Nonwovens, Plot no. 1, 2, 3, Laxmi Ichalkaranji, Industrial Estate, Ichalkaranji, Maharashtra 416115	Nonwoven manufacturing – Centre of Excellence unit	Private	Textile	14/07/2016	15/07/2016	25
Arvind Mills, Ahmedabad BSL Suitings, Chittorgarh, Bhilwara, Rajasthan	Yarn spinning, Weaving, Fabric process house, Denim dyeing unit	Private	Textile	30/09/2016	05/10/2016	30
Vapi, Welspun and Raymonds	Textile Processing	Private	Textile	24/09/2017	26/09/2017	45

- Summer Projects
- After Signing of MOU with Ethiopian Govt. on 24th July 2014 following students have been enrolled for various programmes at ICT;

Sr. No.	Name of Student	Course Pursuing
1.	Solomon AlebachewTebeje	M. Tech in FTPT
2.	TesfayeTolessaAdere	M. Tech in FTPT
3.	Markos WodatoWodaje	M. Tech in FTPT
4.	Oliyad Ebba Gurmu	M. Tech in FTPT
5.	AlemayehuLetaSenbeta	M. Tech in FTPT
6.	Mr. Misgana Taye Hassen Tsegaye	M. Tech in FTPT
7.	Mr. Yesuf Seyd Ahmed	M. Tech in FTPT
8.	Mr. Tambizot Getachew Alemayehu	M. Tech in FTPT
9.	Mr. Temesgen Zerabruk	M. Tech in FTPT
10.	Mr. Agmas Azemeraw Bimirew	M. Tech in FTPT
11.	Ms. Biruktawit Worku Menigisitu	M. Tech in FTPT
12.	Theodros Zekarias	M. Sc in Textile Chemistry
13.	Mifta Jalaludin	Ph. D. Tech

- **Visiting Lectures at Ethiopia**

Sr. No.	Title	Place	Month and Year
.1	Annual Awareness in Ethiopia	Ethiopia	10-11th October 2014
2	Refresher course I on, "The Principles and Practical aspects of setting up pilot processing plant for demonstration, training, and R & D purpose in, university, skill, centers and institutions"	Ethiopia	1st December 2014
3	Refresher course II on,"Textile Fibres"	Ethiopia	29th December 2014
4	Seminar on,"Dyeing of Cotton "Problems and Remedies"	Ethiopia	3-4 March 2015

5	Refresher Course III on, “Chemistry of Dyes and Auxiliaries- from Dyers perspective”	Ethiopia	16-20 March 2015
6	Refresher Course IV on, “Chemical Aspects of Pre-treatment of Textiles”	Ethiopia	14-17 April 2015.
7	Dendrimer pre-treatment for salt-less reactive dyeing of cotton at acidic pH R.V. Adivarekar	Ethiopia	1-2 May 2015

48. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details-**Yes**

- **Letter of AICTE approval for the relevant Postgraduate department**

Dr. (Mrs.) [illegible] Naqvi Haider
Director - Quality Assurance

[illegible] 967/2007

To

The Principal/Head,
Institute of Chemical Technology (Autonomous),
University of Mumbai,
Nathalal Parekh Marg, Matunga
Mumbai-400 019

Sub : Accreditation Status of Programme(s) offered by your Institution

Dear Sir,

With reference to your application for accreditation of the following programme(s) and the Expert Committee visit to your institution, the report of the visit team was considered by the various Sectoral Committees and subsequently by the National Board of Accreditation in its meeting held on 15.07.2006. Based on the recommendations of the Board, I am pleased to communicate the Accreditation Status of the following programme (s) from your Institution.

Sl. No.	Name of U.G. & PG Programme(s)	Accreditation Status	Period of validity upto 2006
1.	Chemical Engg.	Accredited	5 years
2.	Dyestuff Technology	Accredited	5 years
3.	Fibre & Textile Processing Tech.	Accredited	5 years
4.	Food Engg. & Technology	Accredited	5 years
5.	Oils, OleoChemicals & Surfactants Tech.	Accredited	5 years
6.	Polymer Engg. & Tech.	Accredited	5 years
7.	Surface Coating Technology	Accredited	5 years
8.	Pharm. Chemistry & Tech	Accredited	5 years
9.	M.Tech. Plastic Processing	Accredited	5 years
10	B. Pharmacy	Accredited	5 years
11.	ME Bio-Processing Tech	Accredited	5 years
12.	ME Plastic Engg.	Accredited	5 years
13.	ME Students in Chemical Engg.	Accredited	5 years
14.	ME Fibre & Textile Processing Tech	Accredited	5 years
15.	[illegible]	[illegible]	[illegible]
16.	[illegible]	[illegible]	[illegible]
17.	ME Oils, Oleochemicals & Surfactants	Accredited	5 years
18.	ME Fermentation Technology	Accredited	5 years
19.	ME Polymer Engg. & Technology	Accredited	5 years
20.	ME Surface Coating Technology	Accredited	5 years
21.	ME Food Engineering & Technology	Accredited	5 years

(Total Number of programmes Accredited vide this letter - Twenty One)

Contd ..2

The Accreditation status awarded to the above programmes of your institution does not imply accreditation to the College / Institution as a whole. The complete name of the Programme(s) Accredited and its period of validity, as well as the date from which the award is effective, should be quoted unambiguously whenever it is used. The accreditation status of the above programmes is subject to periodic review by the NBA Secretariat etc. will be changed if major deficiencies are identified on surveillance. You are also required to comply with the mandatory disclosure of pertinent information as per the proforma placed on the AICTE website with respect to accredited programmes of your institution. The same information should also appear in the website and information bulletin of your institution duly indicating the date of publication of the same.

The status accorded to the above programmes of your college / institution is on the presumption that the programmes would maintain the current standards in future. If there are any changes that would adversely alter the status (such as, major changes in faculty strength, or changes in the organizational structure, etc.), the same shall be communicated to the undersigned, with an appropriate explanatory note. A comprehensive report submitted by the Chairman of the expert committee who visited your institution and the distribution of marks/points awarded for each programme against the accreditation parameters are enclosed for further necessary action at your end to overcome the shortcomings observed in each programme. If you are not satisfied with the decision of the Board, you may forward your appeal application with requisite fee within thirty days of receipt of this communication.

Let me also take this opportunity to congratulate all those who have contributed to the quality enhancement of programmes that secured accreditation by NBA.

With best wishes

Yours Truly,

(Tabassum Naqvi)

C.C. :

1. The Vice-Chancellor,
   University of Mumbai
   Mumbai (MS)

2. The Director,
   Directorate of Technical Education,
   Govt. of Maharashtra,.
   3, Mahapalika Marg,
   Mumbai – 400 001 (MS)

3. The Regional Officer,
   All India Council for Technical Education
   Western Regional Office,
   2nd Floor, Industrial Assurance Building,
   V.N. Road, Opp. Churchgate Rly Station,
   Churchgate, Mumbai – 400 020 (MS)

4. Accreditation File

5. Guard File.

(Tabassum Naqvi)

- **Letter of NBA approval for the Under Graduate &Postgraduate department**

NATIONAL BOARD OF ACCREDITATION

NBCC Place, East Tower, 4th Floor, Bhisham Pitamah Marg
Pragati Vihar, New Delhi-110 003
Tel: +91 11 2436 0620, 2436 0654 Telefax: +91 11 2436 0682

NATIONAL BOARD OF ACCREDITATION

File No. 28-301-2010-NBA

Date: 21/10/2015

To,

The Vice Chancellor
Institute of Chemical Technology
Nathalal Parekh Marg,
Matunga, Mumbai – 400 019
Maharashtra

Subject: Decision on appeal against non accreditation of PG programmes of Institute of Chemical Technology, Nathalal Parekh Marg, Matunga, Mumbai – 400 019, Maharashtra.

Sir,

This has reference to Appeal dated 03-06-2014 filed by you against the decision of NBA granting non-Accreditation to the PG Engineering programs of your Institute communicated vide NBA's letter of even number dated 07-12-2013.

2. The Appeal was considered by the Appellate Committee of NBA in its meeting held on 18-07-2014. The recommendation of the Appellate Committee was considered by the Sub-Committee of General Council of NBA at its meeting held on 06-08-2014. Based on the decision taken by the Sub-Committee for re-visit to your Institute, an Expert Team conducted on-site evaluation of the programmes during 28th to 30th August, 2015. The Report submitted by the Expert Team was considered by the concerned Committees constituted for the purpose in NBA. The competent authority in NBA has approved the accreditation status to the following programmes as given in the table below:

Sl. No.	Name of the Progr (PG)	Basis of Evaluation	Accreditation Status	Period of validity w.e.f. 01.07.2015	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
1.	Dyestuff Technology	2004 Format	Accredited	5 years	Accreditation status granted is valid for the period indicated in col.5 or till the program has the approval of the competent authority, whichever is earlier
2.	Fibers and Textiles Processing Technology		Accredited	5 years	
3.	Polymer Engg. and Technology		Accredited	5 years	
4.	Surface Coating Technology		Accredited	5 years	
5.	Perfumery and Flavour Technology		Accredited	5 years	
6.	Oil, Oleo Chemicals and Surfactants Technology		Accredited	3 years	

3. It may be noted that only students who graduate during the validity period of accreditation, will be deemed to have graduated with an NBA accredited degree.

Contd/...

4. The accreditation status awarded to the programs as indicated in the above table does not imply that the accreditation has been granted to Institute of Chemical Technology, Nathalal Parekh Marg, Matunga, Mumbai – 400 019, Maharashtra **as a whole. As such, the Institute should nowhere along with its name including on its letter head etc. write that it is accredited by NBA because it is program accreditation and not Institution accreditation. If such an instance comes to NBA's notice, this will be viewed seriously.** Complete name of the program(s) accredited, level of programs and the period of validity of accreditation, as well as the date from which the accreditation is effective, should be mentioned unambiguously whenever and wherever it is required to indicate the status of accreditation by NBA.

5. The accreditation status of the above programs is subject to change on periodic review, if needed by the NBA. It is desired that the relevant information in respect of accredited programs as indicated in the table in paragraph 2, appears on the website and information bulletin of your Institute.

6. The accreditation status awarded to the programs as indicated in table in paragraph 2 above is subject to maintenance of the current standards during the period of accreditation. If there are any changes in the status (major changes of faculty strength, organizational structure etc.), the same are required to be communicated to the NBA, with an appropriate explanatory note.

7. Copies of Report of Chairman of the Visiting Team and Evaluators' Reports in respect of the above programmes are also enclosed.

Yours faithfully,

(Dr. Anil Kumar Nassa)
Member Secretary

Encls: 1. Copy of Report of Chairman of the Visiting Team.

2. Copies of Expert Reports of the Visiting Team.

Copy to:

1. The Secretary
   Higher & Technical Education & Employment Department
   Govt. of Maharashtra, Mantralaya,
   Mumbai 400 032

2. The Director
   Directorate of Technical Education
   Govt. of Maharashtra 3, Mahapalika Marg,
   Mumbai 400 001
3. Accreditation file

4. Master Accreditation file of the State

49. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

During the assessment period (2011-2015) the faculty of the department have published 335 number of papers in national and international journals. These papers highlight the new knowledge generated in various frontier areas in apparel textile and technical textile field. The work reported in these papers covers Modification of fibrous polymers for improved performance, Nano composite fibres, Superabsorbent polymers, oil absorbent polymers, natural plant and bacterial based dyes and functional Dyes, functional finishes with specialty applications such as flame retardant, water repellent, anti bacterial, mosquito repellent, aroma finish, self cleaning etc. all these work has very good potential in application in sport textiles, protective textiles, home furnishing, medical textiles in addition to general apparels. The work on polyester recycling, removal of heavy metals from effluents, exploration of different sources of enzymes for application in textiles, recycling of garments, synthesis of specialty chemicals for textiles and ecofriendly processing with sustainability as driving factor has also been reported and presently these areas are very actively researched in the department.

50. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- One of the oldest (a sort of heritage status) and reputed institution dedicated to Textile processes and technologies with a remarkable rate of growth
- Teaching (both UG and PG) and research programmes exist in a large variety of frontier as well as unique areas.
- Well qualified, senior and experienced faculty.
- Excellent B.Techprogrammes.
- Academically, administratively and financially autonomous status of the institute.
- Academic programmes focused on employability of students.
- Recognition of excellence of research by various funding agencies which have provided special funds for various activities, including FIST programmes of DST for 6 out of 8 departments.
- Ratio of UG to PG students is nearly unity and no. of PhD students is very large.
- A large no. of high monetary value sponsored research projects.
- A large no. of high monetary value consultancy projects.
- Rs. 23 crore TEQIP programme is rated excellentNumerous donations for Awards, Chair Professorships, dedicated Buildings etc by alumni and industries.
- Healthy corpus fund.
- Financially sound, the Institute earns several times more than the state funding for salaries.
- Excellent rewards and awards for achievements by the faculty.
- Excellent record of research publications in reputed journals.
- Active and influential alumni; a large no. of alumni have started industries.
- Extensive computerization of information and activities of the institute.
- Excellent interaction with industries.

- A project as a part of course in Final Year B. Tech is a good idea. Projects are of high quality and are industry oriented.

Weaknesses:

- Cramped campus
- Poor campus and student hostel maintenance
- Limited internet, not available in hostels
- Credit system has not been adopted
- Library is not attractive or inviting and is stocked with a lot of old books. Needs modernization
- No specific contact hours for PG students. Hours may be inadequate in comparison with other institutions in the country as high no. of student: faculty ratio exists.
- Too many Masters' programmes for a given no. of faculty, considering the limited number of faculty.
- Safety concerns in labs and projects need to be addressed to.

Opportunities and Challenges:

The textile business has not been restricted only to the field of textile fabrics and apparels and in the modern world increasing amount of textile and composites are being used in frontier technical textile areas such as geo textile, sport textile, medical textile, home furnishing, protective textile, automotive textile etc. Hence the India's contribution to these about 1000Bn US$ global business is targeted to be about 100Bn US$ from the present 50Bn US$ export. Additionally at the domestic front the target of another 200Bn US$ indicates that these sector has tremendous opportunities to grow. Looking at India's fast growing economy an increasing amount of investment (domestic and Foreign) in infrastructure, automobiles, reality sectors, medical fields etc, there will be further boost in the growth of the conventional as well as technical textile field. The young and educated population of India is going to play an important role in consumption of these materials. In other words external environment, government policy support, great demand on domestic sector for conventional and technical textiles, encouraging business atmosphere and good raw material based are some of the opportunities for Indian textile to grow and thus the demand for the human resources trained in Fibre and Textile Processing Technology will accordingly increase.

Some of the challenges however are less attention and investment made in innovation and research and development, limited availability of the fellowships for those who want to pursue higher studies in the field of textiles, as well as restricted funding for infrastructure and laboratory developments. There is also demand for increase in the faculty which is long overdue. Many of the faulty post are also vacant for number of years. Thus if we continue to work under such challenges and constrain without addressing them there is a possibility that the foreign universities will attract the best of the talent from the student community and that will in fact hurt badly the contribution of the institute. As far as textile sector is concerned shortage of labour and utilities such as power and water, low incentives for up gradation as well as environment protection and application of new technology, higher money cost, poor infrastructure and congested ports etc are the challenges.

51. Future plans of the department.

- Increase in the number of research scholars mainly M-Tech and M.Sc. Textile Chemistry and similarly Ph.D Tech and Ph.D Textile Chemistry, Ph.DSci and Biotechnology.
- We shall continue to add new equipments to further equip our laboratories required for research and pilot plant studies. This will help us in advanced characterization required for new area of research as depicted below.
- New areas of research such as Nanotechnology, Biotechnology, Functional finishes, digital printing, electrospinning, wet spinning, coating, composites etc. will be given further boost to establish he foundation of this kind of work more firmly.
- More linkage with the universities within and abroad will be established so also with the industry. This is expected to reflect in better exposure to the students and also implementation of innovative research activities by cross cultivation.
- Dept plans to establish three centres of excellence which would be of great value to the textile industry where our department can contribute in a great way; namely

✓ Centre for fabric care.
✓ Centre for processing of unconventional Natural fibres
✓ Centre for Fibre reinforced composites
✓ Centre for Sustainable Textile processing
✓ Centre for Smart Textile processing

FOOD ENGINEERING TECHNOLOGY DEPARTMENT

FOOD ENGINEERING AND TECHNOLOGY DEPARTMENT

This department earlier known as Foods & Drugs started in 1943 with the institution of two-year post B.Sc. course leading to B.Sc. (Tech) degree in Chemistry of Foods and Drugs. Later in 1949 this course was revised to a full-fledged degree course in the discipline of Food Technology. Thus, U.I.C.T. is the pioneer institute in the whole country to offer specialized education in Food Technology. In 1965, this course was changed to three-year (post B.Sc.) that has now become four-year post H.Sc. (XIIth std.) B.Tech. course in line with the national pattern. Master's programme in Fermentation Technology was introduced in 1966 and till date U.I.C.T. is the only institute in the country offering this specialization. To keep up with the present times, the course in fermentation technology has been restructured as food biotechnology which is supported by Department of Biotechnology (DBT), Govt. of India.

There are eight faculty members and several distinguished persons from industry and other institutes are invited as visiting fellows for giving quality input to the education and training imparted to the students. Professor D.V.Tamhane and Professor P.J.Dubash Endowments provide opportunities to research students in a variety of activities. The major research interests include Carbohydrate Chemistry & Technology with focus on Indian Traditional Foods; Fermentation Technology with focus on Enzymes, Plant Cell Culture, Nutraceuticals & GM Foods and Food Microbiology related to Quality, Safety and Application of New Technology.

The department is supported by UGC as a Centre for Advanced Studies (CAS-I) and continued support by way of Ph.D. fellowships under the SAP program. In addition to this the department is also supported time to time by AICTE, DST, CSIR, ICMR to name some. The faculty members are well connected to national and multi-national establishments and involved in research and consultancy. Support from TEQIP too facilitated many students and faculty in attending conferences and showcasing their work. ICT has been active in instituting several merit-cum-means scholarship for the needy and meritorious undergraduate students.

The department has successfully established the collaborations with universities worldwide through jont collaborative programs with faculty colleagues in the FETD under commonwealth programmes to work at Rutgers, State University of New Jersey (USA), Washington State University, Pullman (USA), Saskatchewan University (Canada), University of Aalto (Finland), Queens University, Belfast and many more. Our interaction with the industry has been on an increase with mutual support and benefit to all concerned. The faculty in the department are closely associated with Food Safety and Standards Authority of India (FSSAI) and involved in various scientific committees and policy making.

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

VISION

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

MISSION

- To improve food, especially Indian traditional foods, in terms of nutrition, safety and functionality employing fundamental and applied sciences.
- To produce trained personnel of highest standards for the benefit of the industry and society, in the field of food engineering & technology and food biotechnology.
- To provide leadership in areas of education, research, innovations and solutions in food and biotech sciences, technology and engineering to direct overall activity towards economic growth of India.

1. **Year of establishment:** 1943

2. **Is the department part of a School/Faculty of the university?** No

3. **Names of programmes offered (UG, PG, M. Phil, integrated masters; integrated Ph.D., D.Sc., D.Litt., etc.): UG, PG and Ph.D**

- B. Tech. (Food Engineering &Technology);
- M. Tech (Food Engineering &Technology, Food Biotechnology, Bioprocess Technology);
- PhD (Tech) (Food Engineering & Technology, Food Biotechnology, Bioprocess Technology)
- PhD (Sci) (Biotechnology, Biochemistry and Food Science

4. **Interdisciplinary programmes and departments involved**

Sr. No	Subject code	Interdisciplinary courses	Year	Department involved
1	CHT1121	Inorganic Chemistry	1st	CH
2	CHT1131	Organic Chemistry-I	1st	CH
3	MAT1101	Applied Mathematics-I	1st	MA
4	PYT1101	Applied Physics-I	1st	PY
5	GEP 1101	Engineering Graphics-I	1st	CE
6	PYP 1102	Physics Laboratory	1st	PY
7	CHP 1122	Inorganic Chemistry Laboratory	1st	CH
8	CHP 1132	Organic Chemistry Laboratory	1st	CH
9	CHT1231	Organic Chemistry-II	1st	CH
10	CHT1211	Analytical Chemistry	1st	CH
11	CET1501	Material & Energy Balance Calculations	1st	CE
12	MAT1102	Applied Mathematics-II	1st	MA
13	PYT1103	Applied Physics-II	1st	PY
14	MAP1201	Engineering Applications of Computers	1st	MA
15	CHP1232	Organic Chemistry Laboratory	1st	CH
16	CHP1222	Analytical Chemistry Laboratory	1st	CH

17	HUP 1101	Communication Skills	1st	HU
18		Engg. Mechanics & Strength of Materials	2nd	
19		Electrical and Electronics Engineering*	2nd	
20		Physical Chemistry	2nd	CH
21		Electrical and Electronics Engineering Lab	2nd	
22		Physical Chemistry Laboratory	2nd	CH
23		Transport Phenomena	2nd	CE

5. **Courses in collaboration with other universities, industries, foreign institutions, etc**.- Nil
6. **Details of programmes discontinued, if any, with reasons:** Not Applicable
7. **Examination System:** Semester based Credit System
8. **Participation of the department in the courses offered by other departments:** Chemical Engineering, Oils, Pharmaceuticals & Dyes Department
9. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/ Asst. professors/others)**

	Sanctioned	Filled	Actual (including CAS &MPS)
Professor	2	1	3
Associate Professors	3	2	1
Asst. Professors	3	3	2
Others	-	-	1 (UGC FRP)

10. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance.**

Name	Qualification	Designation	Specialization	Experience Years	PhD students guided last 4 year
Prof. S. S. Lele	Ph.D. (Tech.)	Professor	Biochemical Engineering	37	7
Prof. R. S. Singhal	Ph.D. (Tech.)	Professor	Food Technology	27	15
Prof. U.S. Annapure	Ph.D. (Tech.)	Professor	Food Chemistry	15	5
Dr. Laxmi Ananthanaraya	Ph.D. (Tech.)	Associate Professor	Biochemistry and Nutrition	32	3
Dr. S. S. Arya	Ph.D. (Tech.)	Assistant Professor	Food Technology	9	0

Dr. S. Chakraborty	PhD	Assistant Professor	Food Technology	2	0
Dr. Jyoti Sagar Gokhale	Ph.D. (Tech.)	UGC-FRP Asst Prof	Biotechnology	3	0

11. List of seniorVisitingFellows,adjunct faculty,emeritusprofessors

- **Adjunct Professor**
  - Prof. K. Niranjan (University of Reading, UK)
  - Dr. Mukund Karwe (Rutgers University, USA)
- **Visiting Fellows**
  - Dr. Joseph I Lewis
  - Dr. Shyam Sablani (WSU, USA)
  - Prof. Jayant R. Bandekar, BARC,Trombay, Mumbai
  - Dr. Shobha Rao
  - Dr. R. Ganaga Prasad.
  - Dr. Shita Swami
  - Dr. A. J. Varma
  - Dr. Debashish Mitra

12. Percentage of classes taken by temporary* faculty programme-wise

Sr. no.	Degree	Course name	% of classes taken by temporary faculty
1	B. Tech	Food Engineering&Technology	0
2	M. Tech	Food Engineering&Technology	0
3	M. Tech	Food Biotechnology	0

***No temporary faculty available.**

13. Programme-wise Student Teacher ratio

Sr. no.	Degree	Course name	Student to teacher ratio
1	B. Tech	Food Engineering & Technology	9.7:1
2	M. Tech	Food Engineering & Technology	2.8:1
3	M. Tech	Food Biotechnology	2.8:1

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

	Sanctioned	Filled
Administrative Staff	-	0
Support staff	8	7

15. Research thrust areas as recognized by major funding agencies

- **Carbohydrate Chemistry & Technology**
  - Cereal science & technology
  - Starches, Gums and Hydrocolloids
  - Dietary Fibre
  - Extrusion Processing
- **Fermentation Technology & Food Biotechnology**
  - Fermented Foods
  - Fermentative Production of Biomolecules
  - Enzymes: Production and Applications
  - Nutraceuticals and Natural Pigments
  - Plant Tissue Culture
- **Commodity Technologies**
  - Food Product/Process Development
  - Chemistry & Technology of Indian Traditional Foods
  - Fruits and Vegetable Processing
  - Health Drinks/Beverages

16. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise

Funding agency	PI	Grant Received In Lakh	Title	Duration
DST-SERB	Dr. Snehasis Chakraborty	48.00	Pulse light Treatment of beverages from underutilized tropical fruit; value addition, process optimization and shelf life extension	2017-20
Godrej & Boyce Mfg Co Ltd, India Indo-US	Prof. US Annapure Dr. Snehasis Chakraborty	6.00	Parametric study and data analysis in the process of developing cooking aids	2017
DST	Prof. SS Lele	51.71	Developing a Mushroom germplasm bank for western coast of India with special emphasis on Maharashtra and Goa to commercialize their nutraceutical and Pharmaceutical potential	2016-19
RGSTC	Prof. SS Lele	67.27	Exotic fruit wines : Micro-brewery Demo Plan	2014-17

DST Govt. of India	Prof. SS Lele	129. 89	Holistic approach f or Commercial processing of Fruits and vegetables grown In Western Maharashtra	2013-16
UGC Govt. of India	Dr. SS Arya	1.85	Studies in development of low glycemic index bhakri	2012-14
DST/SERB-MOFPI, Govt. of India	Prof. US Annapure Co PI: Dr. R. R. Deshmukh	22.14	Studies in physico-chemical Properties of plasma Processed rice grains	2013-14
DBT Govt. of India	Prof. SS Lele	9.89	DBTJRF Regional Meet	2013
Centre of Excellence Under TEQIP	Prof. RS Singhal	27.00	Process intensification for extraction of turmeric and pepper oleoresin by enzyme-assisted supercritical carbon dioxide	2013-14
UGC Govt. of India	Prof. RS Singhal	7.00	UGC-BSR one time grant for augmenting research facilities	2013-14
UGC F. NO. 42-1038/2013	Dr Shalini S Arya	1.85	Studies in development of low glycemic index *bhakri*	2013-2015
Centre of Excellence Under TEQIP	Prof. RS Singhal	27.00	Process intensification for extraction of turmeric and pepper oleoresin by enzyme-assisted supercritical carbon dioxide	2013-14
UGC Govt. of India	Prof. RS Singhal	7.00	UGC-BSR one time grant for augmenting research facilities	2013

17. Inter-institutional collaborative projects and associated grants received

- **National**
  Nil
- **International**

Topic of investigation	Institute/Organization involved	Grant received (Lakh)
Taste response study of amaranth-quinoa snacks by Indian population (RSS)	Rutgers Centre for Global advancement and International affairs, USA	$8000
Studies on legume allergens (LA)	Paul Ehrlich Institute, Langden, Germany	€6550

Studies on biotechnological aspects of legume allergens (LA)	Paul Ehrlich Institute, Germany	DAAD fellowship (EUR 6000)
Characterization of *Sacccharaomyces boulardii* aldehyde dehydrogenase	Queen's University Belfast, UK	Commonwealth Scholarship to Suprama Datta (13,000 GBP)

18. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

Funding agency	PI	Grant Received In Lakh	Title	Duration
DST Govt. of India	Prof. SS Lele	129. 89	Holistic approach for Commercial processing of Fruits and vegetables grown In Western Maharashtra	2013-16
DBT Govt. of India	Prof. SS Lele	9.89	DBTJRF Regional Meet	2013
DST	Prof. SS Lele	51.71	Developing a Mushroom germplasm bank for western coast of India with special emphasis on Maharashtra and Goa to commercialize their nutraceutical and Pharmaceutical potential	2016-2019
RGSTC	Prof. SS Lele	67.27	Exotic fruit wines : Micro-brewery Demo Plan	204-2017
UGC Govt. of India	Dr. SSArya	1.85	Studies in development of low glycemic index bhakri	2012-14
DST/SERB-MOFPI, Govt. of India	Dr. USAnnapure Co PI: Dr. R. R. Deshmukh	22.14	Studies in physico-chemical Properties of plasma Processed rice grains	2013-14
Centre of Excellence Under TEQIP	Prof. RS Singhal	27.00	Process intensification for extraction of turmeric and pepper oleoresin by enzyme-assisted supercritical carbon dioxide	2013-14
UGC Govt. of India	Prof. RS Singhal	7.00	UGC-BSR one time grant for augmenting research facilities	2013-14
DST-SERB	Dr. Snehasis Chakraborty	48.00	Pulse light Treatment of beverages from underutilized tropical fruit; value addition, process optimization and shelf life extension	2017-20

UGC F. NO. 42-1038/2013	Dr Shalini S Arya	1.85	Studies in development of low glycemic index *bhakri*	2013-15
Centre of Excellence Under TEQIP	Prof. RS Singhal	27.00	Process intensification for extraction of turmeric and pepper oleoresin by enzyme-assisted supercritical carbon dioxide	2013-14
UGC Govt. of India	Prof. RS Singhal	7.00	UGC-BSR one time grant for augmenting research facilities	2013

19. Research facility/centre with

a) State
b) National
c) International recognition

The department has a research facility for the use by the faculty and potential students under the supervisors recognized by the institute and other universities.

20. Special research laboratories sponsored by /created by industry or corporate bodies: One

21. Publications:

- Number of papers published in peer reviewed journals (national/international):216
- Monographs: A
- Chapters in Books:10
- Edited Books:
- Books with ISBN with details of publishers:
- Number listed in international database (For e.g. Web of Science, Scopus, humanities international complete, Dare Database-international Social Sciences Directory, EBSCO host, etc.):
- Citation index – range/average:55-8220/1584
- Snip:
- SJR :
- Impact Factor – range / average: 0.38-9/2.17
- h-index: 2-43

22. Details of patents and income generated: Two, Income: NA

23. Areas of consultancy and income generated: Food Processing 5.7 Lakh per annum

24. Faculty selected nationally/internationally to visit other laboratories / institutions industries in India and abroad:

Professor S. S. Lele

- Delivered a lecture on "Bio-processing in food industry for value addition" at V G Vaze Collage, Mumbai on 25th October 2017

- Deliver a lecture on convective hot air tray drying of fruit and vegetable : process optimization at MCCA, Pune on 5th October 2017
- Delivered a talk on "Anandache Vidyan" at Kings George on August 20, 2014.
- Delivered a talk on "Rasayanashastra- Kalache Ani udyache" at Ruia College on August 27, 2014.
- Delivered a talk on Motivation and science in day to day life for students, teachers and staff at Digambar Patkar School on January 30, 2015.
- Attended SAP-UGC (Food Science& Technology) expert committee meeting on June 22, 2015 at Department of Food Science and Technology, Guru Nanak Dev University, Amritsar.
- Visited 2 schools, 1 college and addressed 2 womens groups from Sahyadri Educational Trust, Sawarde, Chiplun, Ratnagiri on June 27-28,2015.
- Delivered lectures, conducted sessions on career counseling, positive thinking, nutrition and health etc. Total number of beneficiaries – 1800 students, 80 teachers and 70 women.

Professor R. S. Singhal

- Extraction of forskolin from Coleus forskohlin some new approaches, a lecture delivered at Bioprocessing India 2014, organized by DBT-ICT Centre, ICT and IIT Bombay, December 17, 2014.
- Making agriculture pro-nutrition, a lecture delivered at a seminaron 'Protein nutrition and novel protein ingredients in the 21st century – tackling the 'protein problem', organized by at Chancellors Hotel, Chancellors Way, Moseley Road, Fallow field, Manchester M146ZT, UK, and funded by Department of Science and Technology, new Delhi and Royal Society, UK, January 20- 22, 2015.
- Production of glycine betaine and trehaloes by Actin poly sporahalophile (MTCC263) using acid whey: process details and cell disruption, Jayaranjan Kar and Rekha S. Singhal, a lecture delivered at DAE-BRNS Life Sciences Symposium (LSS-2015) on 'Advances in Microbiology of Food, Agriculture, Health and Environment' at Nabhikiya Urja Bhacvan, Anushakti nagar, Mumbai – 400 085, February 3,2015.
- Local products for international markets–some issues, a lecture delivered at a conference organized by All India Association of Industries, Ministry of External affairs, Government of India and World Trade Centre on 'ASEAN-India Cooperation in Food Security, Agriculture Technology & Food Engineering Run-up Event, Mumbai for Delhi Dialogue VII2015, World Trade Centre, Mumbai, February 12, 2015.
- Conducted a technical session for personnel from commercial (sales) and creation and application in the form of four lectures on i) general introduction to food additives, ii) emulsifiers, iii) acidulants and iv) preservatives, at Keva Flavours Pvt Ltd, LBSM arg, Mulund (W), Mumbai – 400 80, March 4, 2015.
- Food safety from 'Farm to-Fork"-an overview, a lecture delivered at a program organized by Indian medical association-Mumbai west branch on the occasion of World Health organization Day on the theme 'How Safeis Your Food', IMA Building, Mumbai–400049, April 7, 2015.

- Conducted lectures on i) Mycotoxins in food, ii) Toxicants that develop during foodprocessing, and iii) Environmental contaminants in food-PCDD and PCDF, during a UGC sponsored Refresher Course on 'Food Safety and Public Health', University of Allahabad, April 10-11, 2015.
- Building world class research institutions, a lecture delivered at a Leadership Seminar, Vivekananda Auditorium, Ramakrishna Mission, Khar (West), Mumbai – 400052, April 18,2015.

Professor Uday S. Annapure

- "Cold Plasma Processing for Food and Agriculture" an invited talk at National Conference on "Food and Agriculture Biotechnology" organised by Department of Biotechnology at Sinhgad College of Engineering, Vadgaon, Pune during 14th and 15th September, 2017.
- "Soy Based Extruded Products" an invited talk delivered at USSEC conference on "Soy: Avenues and Opportunities" organized by American Soybean Association and US Soybean Export Council, at Ahmedabad, Gujarat on February 28, 2017.
- "Cold Plasma Processing" an invited talk at the World Food Day seminar organised by Department of Food Processing Technology, A.D. Patel Institute of Technology, New Vallabh Vidya Nagar, Anand - 388 121, Gujarat.
- "Soy Based Extruded Products" an invited talk delivered at conference on "Soy Nutrition and Soy Opportunities – Creating Linkages organised by USSEC in collaboration with the Association of Food Scientists and Technologist, Soy Food Promotion and Welfare Association and Soy Processors Association of India at Hotel Taj Santacruz, Mumbai on the Dec 28, 2016.
- "Non-Thermal Process - Emerging Technologies for Food Processing" an invited talk delivered under TEQIP at Department of Technology, Shivaji University, Kolhapur on September 14, 2016.
- "Applications of Cold Plasma in Food Processing" an invited talk delivered in the workshop on "Plasma Processing of Materials" organised by Department of Physics on Wednesday, 21st September, 2016 at ICT, Mumbai
- "Cold Plasma : An Emerging Trend in Food Processing" an invited talk in TEQIP II sponsored National Conference on Technologies in Sustainable Food Systems (TSFS -2016) organised by Sant Longowal Institute of Engineering and Technology, Longowal, Distt. Sangrur, Punjab during October 7-8, 2016
- "Food Science and Technology: An Insight, an invited talk at CKT College, Panvel, January 10, 2015
- "Recent Trends in Food Processing and Technology" an invited talk at state level seminar on 'Recent Trends in Dairy and Food Processing at Vivekanand Arts, Sardar Dalipsingh Commerce and Science College, Aurangabad on February 16, 2016
- "Non-thermal Processes : Emerging Technologies for Food Processing" an invited talk at Farmer Empowerment through Agro-processing & Sustainable Technologies during XXIV

Indian Convention of Food Scientists & Technologists at VNMKV, Parbhani during December 18-19, 2015

- Non-Thermal Process - Emerging Technologies for Food and Nutrition Security at Innovative Thought Forum, Brainstorming on Food Processing, Food Security and Food Nutrition held on November 25, 2015 at Maple Room, Indian Habitat Centre, Lodhi Road, New Delhi.
- ”Enzymatic pre-treatment for extrusion processing” an invited talk at Bioprocessing India 2014 Jointly organized by Institute of Chemical Technology (ICT), Mumbai and Indian Institute of Technology (IIT), Mumbai during December 17-20, 2014 at ICT, Mumbai.
- “Low temperature plasma processing for improved cooking qualities of basmati rice” an invited talk at XXIII Indian Convention of Food Scientists and Technologists (ICFOST) on 13th-14th December, 2014, at NIFTEM Campus, Kundli, Haryana
- “Milk Processing and Milk Products” an invited lecture at Keva Flavours Pvt. Ltd.LBS Marg, Mumbai.
- “Non-Thermal Food Processing” an invited talk at Sharadchandra College of Food Technology, Sawarde
- “New Technological trends in processed foods”. An invited talk delivered at AGRIVISION-2014, the Conference organized by “Marathwada Association of Small Scale Industries and Agriculture (MASSIA)” held at Conference Hall, Garware Stadium, Aurangabad on January 4, 2014.
- Plasma Processing Technology. An invited talk delivered at DST-PURSE Scheme Sponsored seminar on ‘Recent Trends in Processed Foods and Nutraceuticals (RTPFN-2013) organised by Department of Food Science and Technology, Shivaji University, Kolhapur on October 5, 2013
- Lutein production in micro-algae using plant growth promoting hormone and media optimization. An invited talk delivered at UGC-SAP seminar at School of Life Sciences, North Maharashtra University, Jalgaon on February 2, 2013.
- New Product Approval System: A Walk Through. An invited talk delivered at the workshop on “Food Safety and Standards Act 2006” organised by Department of Food Science and Technology, Pondicherry University, Pondicherry during January 28, 2013 – February 2, 2013.
- Plasma Technology: Applications in Food Processing. An invited talk delivered at the National Conference on the theme “Emerging Technologies for Sustainable Developments”, organised by the Department of Technology, Shivaji University, Kolhapur during 27-28 December 2012.
- Safety Assessment of Proprietary Food Products. A lecture delivered at workshop on “Scientific Approach to Product Approval” organised by Association of Food Scientists and Technologists (India), Mumbai Chapter at Lalit, Andheri (E), Mumbai on September 7, 2012.
- Microbial Production of Polyunsaturated Fatty Acids and separation by Supercritical Fluid Extraction. An invited lecture delivered at Department of Biochemistry, Shivaji University, Kolhapur on July 31, 2012.

Dr. Snehasis Chakraborty

- Chakraborty S. (2016) 'Safety aspects of Synthetic, Nature Identical and Natural flavoring Substances' at IIT Kharagpur in Food Safety and Quality Management (FSQM)-CII Professional Course. Delivered on 21st January 2016.
- Chakraborty S. (2016) High Pressure Pasteurization of Fruit Products: Integrating the Kinetics into Process Optimization' at SLIET, Longowal, India during the national conference on the theme, "Technologies in Sustainable Food Systems (TSFS-2016), 7-8 October 2016.

25. Faculty serving in National committees b) International committees c) Editorial Boards d) any other (please specify)

Professor S. S. Lele

- Member, National Expert committee on Star College, DBT, (2014-17)
- Member of 'Promoting Industrial Cluster Development Program' in State of Maharashtra, March 2014 to 2015
- Member, Examination Board, K J Somaiya College of Engineering, Somaiya Vidyavihar, Mumbai, March 2014-15
- Mentor, C-CAMP, DBT initiative for Entrepreneurs in Biotech, Bangalore, Feb 2013- Aug. 2015
- Member, DBT- JRF program, Syllabus committee and policy for BET exam 2014, held at Pune, Jan. 2014.
- Convenor, DBT supported-First DBT-JRF Fellows- Supervisors Regional Meet, ICT, Nov. 21-22, 2013
- Member, Brain Storming session on Bio-processing of Agri-residues organized by Department of Biotechnology, Ministry of Science and Technology, Government of India , at Bioprocessing Unit Mohali Punjab, August 29, 2013
- Member, National Policy Meeting for DBT-JRF program, June 20, 2013 Pune.
- Member, FSSAI Expert committee on Food Additives (2013-15)
- Member, DBT – Star college scheme (2014-17)
- Member, FSSAI Expert committee for curriculum development, 2011
- Member FDA various Committees, (2010-12)

Professor R. S. Singhal

- Member, Editorial Board, Carbohydrate Polymers.
- Member, Editorial Board, International Journal of Food Science and Nutrition.
- Member, Editorial Board, Plant Foods for Human Nutrition.
- Member, Selection committee for promotions, BARC, Mumbai.

- Member, Expert group in the area of secondary agriculture, Department of Biotechnology, Government of India.
- Member, Selection committee, appointment of Assistant Professors and Associate Professors, Shivaji University, Kolhapur.
- Expert, UGC-DSA Programme, University of Mysore.
- Life Member, Association of Food Scientists and Technologists (India).
- Life Member, Association of Carbohydrate Chemists and Technologists, India.
- Member, Advisory Board, Trends in Carbohydrate Research, published by ACCT (I).
- Member, BIPP, BIG, SBIRI, SPARSH and BIRAP, Department of Biotechnology, Government of India
- Referee, Several journals in food science and technology, and bioprocess technology
- Examiner, Ph.D. thesis at some universities in India

Dr. U. S. Annapure

- Vice President of AFST (I), Mumbai Chapter for 2015-16 and 2016-17.
- President of AFST (I), Mumbai Chapter for the years 2013-14 and 2014-15.
- Vice President of AFST (I), Mumbai Chapter for 2011-12 and 2012-13.
- Member, Research Advisory Committee, Indian Institute of Food Processing Technology, Thanjaur, Tamil Nadu.
- Member, Local Management Committee for International Training Centre on Food Safety and Applied Nutrition (ITC-FSAN), Food Safety and Standards Authority of India, New Delhi.
- Member, Scientific Committee, Bureau of Indian Standards, New Delhi.
- Life Member, Association of Food Scientists and Technologists, India [(AFST (I)].
- Life Member, Association of Carbohydrate Chemists and Technologists of India (ACCTI).
- Life Member, Biotech Research Society of India (BRSI).
- Member, International Society of Food Engineering (ISFE), USA.
- Life Member, UDCT Alumni Association.

Dr. Laxmi Anantanarayan

- Member, Board of Studies, Food and Nutrition at SNDT Women's Universtiy, Juhu, Mumbai, 2012-2015.
- Life Member, Association of Food Scientists and Technologists (India).
- Life Member, UDCT Alumni Association
- Member, examination of projects, SIES GST, PPT Dept., Nerul, Navi Mumbai

Dr. Shalini Arya

- Local Executive Committee Member, Association of Food Scientists and Technologists (I), Mumbai Chapter
- Life Member, Biotechnology Research Society of India (BRSI), India.
- Life Member, Association of Carbohydrate Chemists and Technologists of India.
- Member, Society of Chemical Industry (SCI), London.
- Member, International Society of Food Engineering (ISFE), Pullman, USA.
- Member, CFT-PBN Alumni Association (CPAA), Mumbai

Dr. J. S. Gokhale

- Life Member, UDCT Alumni Association
- Member, AFST(I)
- Life Member, BRSI

Dr. Shehasis Chakraborti

- Served as expert reviewer in National Science Centre (Narodowe Centrum Nauki - NCN), Poland
- Member, AFST(I)

26. Faculty recharging strategies (UGC, aSc, refresher / orientation programs, workshops, training programs and similar programs).

- Prof. RS Singhal, Prof S.S. Lele, Dr. US Annapure and Dr. L Ananthanarayanan conducted refresher courses and incited lectures.
- They are also involved in workshop, training programs.
- Dr. Jyoti Sagar Gokhale is UGC-FRP Asst Prof in the department.
- Dr. Jyoti Sagar Gokhale attended orientation program at university of Mumbai during the 6th February to 4th March 2017.
- Dr. Shalini Arya participated Refresher Course in Biosciences during the August 27 - September 15, 2012, Organized by Ramnarayan Jhunjhunwala College, UGC, Academic Staff College, Mumbai University, Mumbai.
- Dr. Shalini Arya participated Faculty Development programme on Management Capacity Building during the October 15- 22 October, 2012, Organized by Welingkar Institute of Management Development and Research, Matunga, Mumbai
- Dr. Shalini Arya participated Food Biotechnology: Training in the area of Classical

Biotechnology (Fermentation) and Genomics for new and improved food products during the 30th November - 4th December, 2013, CAS-TWAS Centre of Excellence for Biotechnology, Institute of Microbiology, Chinese Academy of Sciences, No.1 West Beichen Road, Chaoyang District, Beijing, 100101, China.

- Dr. Shalini Arya participated in the workshop entitled "Quality Initiatives in Technical and Higher Educational Institutions during 11-13 February, 2014, Organized by Engineering Staff college of India, Hyderabad, India.
- Dr. Shalini Arya participated in Hands on training for teachers of biological sciences with project on Gene cloning and expression of green fluorescent protein (GFP) during March 10-March 15, 2014, organized by GN Khalsa College, Matunga, Mumbai.
- Dr. Shalini Arya participated in Honing Mentoring Skills --A holistic approach during May 5 to May 9, 2014, organized by TEQIP and The Department of Pharmaceutical Sciences and Technology(DPST), ICT, Mumba.
- Dr. Shalini Arya participated in International 2014 Food Biotechnology training programme for Developing countries during15th November -19th November, 2014, organized by CAS-TWAS Centre of Excellence for Biotechnology, Luzhou, China.
- Dr. Shalini Arya participated in MHRD-TEQIP workshop titled "Pedagogy for Effective use of ICT for Engineering Education under TEQIP (KIT) Initiative of Ministry, during 5-9th January, 2015, organized by Centre for Distance Engineering Education Programme, IIT Bombay, India.
- Dr. Shalini Arya participated in Management Capacity Enhancement Programme under TEQIP, during 8-13, June, 2015, organized by Indian Institute of Management, Udaipur, India.
- Dr. Snehasis Chacraborti attended 7th Summer Workshop on 'Bioprocess Engineering Lectures and Laboratory' held at IIT Madras from 27th June to 1st July 2016. (one week)

27. Student projects

- % of students who have done in-house projects including inter-departmental projects: 90
- % of students doing projects in collaboration with other universities industry / institute: 10

28. Awards / recognitions received at the national and international level by faculty, students, doctoral or postdoctoral fellows

Year	Category	No. of award/recognition received by		
		Students	Faculty	Doctoral/Post doctoral Fellows
2012-13	National	-	-	-
2012-13	International	-	-	-
2013-14	National	-	-	-

2013-14	International	-	1	-
2014-15	National	2	-	1
2014-15	International	-	1	-
2015-16	National	1	2	-
2015-16	International	1	-	-
2016-17	National	-	1	-
2016-17	International	-	3	-

29. Seminars/Conferences/Workshops organized and the source of funding (national/ international) with details of outstanding participants, if any.

Seminars/Conferences/Workshops	Year	Source of funding
Seminar on 'Innovative food ideas in local and ethnic food industry' and Launching of the first edition of the DuPont NutriScholars Awards (DNA) at ICT Mumbai.	2017	DuPont Nutrition & Health, India
FSSAI's FoSTaC Food Safety Supervisor Training	2017	Confederation of Indian Industriea and Assocom Institute of Bakery Technology and Management (AIBTM), New Delhi.
Workshop on "Analytical and Preparative Instrumentation for the Food Industry"	2017	Anton Paar India Pvt. Ltd. Mumbai
Hands on Training For Analysis Of Food Bioactives	2017	TEQIP II and ICT Mumbai
A seminar on 'Palm Oil'	2017	Malaysia, in collaboration of Association of Food Scientists and Technologists (India), Mumbai Chapter on
A seminar on 'Nutraceuticals: Science to Business'	2017	Association of Food Scientists and Technologists (India), Mumbai Chapter
National Seminar on "Opportunities & Challenges of Foreign Direct Investment (FDI) in Food Retail India"	2016	All India Food Processors' Association (AIFPA) and Ministry of Food Processing Industries (MoFPI), Govt. of India.
Inauguration of Keva flavours Library at ICT and Technical seminar on 'Flavours and its application by Mr. Irshad Shaikh, Senior Manager-Technical, Keva Flavours, Mumbai	2016	Keva Flavours Ltd. Mumbai
A workshop on "Entrepreneurship Development	2016	TEQIP, ICT Mumbai and AFST (I) Mumbai Chapter.
A National Seminar on "Opportunities	2016	All India Food Processors'

& Challenges of Foreign Direct Investment (FDI) in Food Retail India"	.	Association (AIFPA) with the support of Ministry of Food Processing Industries (MoFPI) and in collaboration with Association of Food Scientists and Technologists India (AFSTI), Mumbai Chapter.
Workshop on Codex Alimentarius: Principles and Procedures	2014	Food Safety & Standards Authority of India, Govt. of India.
Nutrition Week Activity 2013	2013	Protein Foods & Nutrition Development Association of India
Traditional Foods	2013	TEQIP and Association of Food Scientists and Technologists, India
World Food Day Celebration Seminar	2013	Association of Food Scientists and
Two day seminar on 'Innovation in Food Science and Technology to Fuel the Growth of the Indian Food Industry	2012	Association of Food Scientists and Technologists, India

30. Code of ethics for research followed by the departments:

As per the research committee

31. Student profile programme-wise: (Acad Office)

Program name	Branch	Application received	Selected		Pass percentage	
			Male	Female	Male	Female
B.Tech	Food Engineering & Technology	Admission through DTE	13	03	100%	100%
M.Tech	Food Engineering & Technology	112	02	08	4	3
M.Tech	Food Biotechnology	83	01	09	6	7
M.Tech	Bioprocess Technology	194	15	15	16	7
M.Tech	Perfumery & Flavors	43	02	07	-	-
Ph.D (Tech)	Food Engineering & Technology, Food Biotechnology, Bioprocess Technology	93				
Ph.D	Biotechnology, Biochemistry,	94				

32. Diversity of students (Acad Office)

Program Name	Branch	% of students from same	% of students from other	% of students from	% of students from foreign

		university	university within the state	university outside the state	university
B.Tech	Food Engineering & Technology	0	0	0	0
M.Tech	Food Engineering & Technology	0	20	80	0
M.Tech	Food Biotechnology	0	50	50	0
Ph.D (Tech)	Food Engineering & Technology, Food Biotechnology, Bioprocess Technology	10	80	15-20	0
Ph.D	Biotechnology, Biochemistry,	0	85	15	0

33. How many students have cleared civil Services and defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

All master students are GATE qualified

All PhD students are GATE/ NET qualified.

34. Student progression

Student progression	Percentage against enrolled
B. Tech to M. Tech/MS	30
M. Tech to PhD	10
PhD topost-doctoral	20
EmployedthroughCampusselection	80
Employedthroughoff Campusselection	18
Entrepreneurs	2

35. Diversity of staff

Percentage of faculty who are graduates	
From the same university	40
From other universities within the State	40
From universities from other States	20
From universities outside the country	0

36. Number of faculty who were awarded M. Phil., Ph.D., D.Sc. and D. Lit. during the assessment period: Nil

37. Present details of departmental infrastructural facilities with regard to

No	Name of the Infrastructural	Quantity / Details
A	Library	Updated
B	Internet facilities for staff and students	Internet Provider: Reliance, Tata and NIC.
		AvailableBandwidth:12 Mbps Broadband
C	Total number of classrooms	4 (16 ft x 20 ft with audio-visual facilities)
D	Class rooms with ICT facility	4 (16 ft x 20 ft with audio-visual facilities)
E	Students' laboratories	3 (each of 20 desks)
F	Research laboratories	7 (state-of-artfacilities)

38. List of doctoral, post-doctoral students and research associates Ph.D. (Tech.) [Food Engineering and Technology (FET)/ Food Biotechnology (FBT) / Bioprocess Technology (BPT)]

Sr. No.	Research Scholar	Previous Institute	Date of Registration	Project Title	Guide
1.	Deepak Sunil Kadam (UGC)	ICT, Mumbai	31.07.2014	Studies in Utilisation of *Nigella sativa* and *Lepidium sativum* iol seed cake (FBT)	SSL
2.	Desai Mihir Mukund,	UICT, NMU	19.10.2015	Studies in indigenous oils and De-Oiled Meal (FET)	SSL
3.	Pulkit Purohit	IICPT, Tamil Nadu	Feb 2014	Characterisation of Jamun and karawand fruits available in western maharashtra region and their utilisation (FET)	SSL
4.	Chetan Arekar	Karunya ubiversity	April 2012	Studies in tropical fruit wines (FBT)	SSL
5.	Sandeep A. Chaudhary	ICT, Mumbai	11.07.2012	Fermentative production, downstream and application of microbial cutinase	RSS
6.	Joshi Chetan	ICT, Mumbai	4.7.11	Fermentative production and downstream processing of zeaxanthin	RSS

7.	Bedade Dattatraya Kashinath	ICT, Mumbai	25.07.2014	Fermentative production downstream processing and applications of acrylamidase	RSS
8.	Nupur Shantaram Nagavekar	ICT, Mumbai	25.07.2014	Extraction Technologies for novel food constituents	RSS
9.	Umesh K.V.	ICT, Mumbai	25.07.2014	Enhancing Biovailability of nutraceuticals	RSS
10.	Bawane Amruta Manikrao,	SLIET, Punjab	21.04.2014	Studies on stability of added constituernts during extrusion processing	RSS
11.	Shah Nirali Nitin	ICT, Mumbai	25.07.2014	Biopolymer modification for novel food applications	RSS
12.	Bajaj Seema Radheshyamji	ICT, Mumbai	12.03.2015	Processing and Storage Stability of Added Vitamins in Food	RSS
13.	Muley Abhijeet Bhimrao	UICT-NMU, Jalgaom	18.03.2015	Modification of proteins for enhanced functionality	RSS
14.	Deshaware Shweta	Amity, Noida	05.07.2013	Study on Genetic Polymorphism of TAS2R38 Bitter Taste Receptor Gene in an Indian Population and Approaches for Debittering	RSS
15.	Mulchandani Ketan	ICT, Mumbai	09.03.2015	Studies on production and downstream processing of deoxynojirimycin.	RSS
16.	Aratrika Ray		25.06.2017	Aerosol development from polysaccharides-Tentative	RSS
17.	JadhavManisha* (UGC SAP)	SLIET, Punjab	Sept2010	Developmentof extruded food productsbasedon sorghum(FET)	USA

18.	Rathod Rahul (UGC SAP)	ICT, Mumbai	July2011	Developmentof extruded food product(FET)	USA
19.	T. Rohit (UGC BSR)	MAU, Parbhani	December 2012	Studies on effect of cold plasma processing on properties of rice varieties (FET)	USA
20.	Pathan Fayaz Latif	MPKV, Rahuri	May 2014	Studies on effect of plasma processing on physicochemical properties of legumes (FS)	USA
21.	Bhushette Pravin Rajkumar (UGC BSR)	UICT, NMU, Jalgaon	October 2013	Study on new exudate gums (FET)	USA
22.	Singhu Bhupender (UGC BSR)	Shri Ramaswami Memorial University, Chennai	October 2013	Enhanced production of glutathione (FBT)	USA
23.	Chaudhari Bhushan Balu (UGC BSR)	UICT, NMU, Jalgaon	April 2015	Study on new seed gums	USA
24.	Sachin Ramdas Adsare (UGC BSR)	UICT, NMU, Jalgaon	April 2015	Studies in coconut processing and valorization of it's by products	USA
25.	Sowmya R. S.	Karunya University	December 2016	Hydroponics	USA
26.	Shital Giri	LIT, Nagpur	17thAug 2010	Studies in development of low glycemic index foods	LA
27.	Bincy Bhaskar	D.Y. Patil	10th Oct 2011	Studies in bioactive peptides from selected legumes commonly consumed in India	LA
28.	Rupesh Tupe	ICT, Matunga	13th Oct 2012	Studies in Functional Foods (topic approval done but title needs to be refined)	LA

29.	Baburaj Regubalan	Anna University	31st Sept 2013	Studies in microbial characterization, nutritional improvement and preservation of idli batter	LA
30.	Karuna Sorde	UDCT, Jalgaon	15th Oct 2013	Studies in fermentative production of microbial Transglutaminase	LA
31.	Anu Ahlawat	Guru gobind singh Indraprastha University, New Delhi	3 Sep., 2016	Studies in development of milk based beverages	LA
32.	Ashish Gautam Waghmare	ICT, Mumbai	30th July, 2013	Bioprocessing and applications of valuable products from Micro-algaeoptimization and shelf life extension	SSA
33.	Sonal Praksh Patil	UDCT, Jalgaon	30th July, 2013	Studies on Production and Characterization of Gluten Free Flatbread	SSA
34.	Sonali Babruwahan Gaikwad	Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani	30th July, 2013	Chemistry and Technology of Cereal-Legume Based Indian Traditional Foods 2018	SSA
35.	Sachin Kalidas Sonawane	ICT, Mumbai	30th July, 2013	Studies on Fruit Seed Based Peptides and their Application in Food Preservation	SSA
36.	Prasanna Prakash Bhalerao (DST-SERB)	UICT, NMU, Jalgaon	19th July, 2017	Pulse light Treatment of beverages from underutilized tropical fruit; value addition, process optimization and shelf life extension	SC

Ph.D. Science [Biotechnology (BT)/ Biochemistry (BC)/ Food Science (FS)]

Sr. No.	Research scholar and sponsor	Previous Institute	Project Title	Date of Registration	Guide

1.	Mugdha Dabir	North Maharashtra University	Studies in characterization and deactivation of fruit based enzymes	9thDec 2011	LA
2.	Chandrahas Vishwasrao	Ramnarayan Ruia College, Mumbai	Biochemical characterization of selected indigenous fruit varieties during ripening and extended shelf life	6thDec 2012	LA
3.	Dhanshree Amane	K.J. Somaiya College, Mumbai	Development of Biochemical methods for detection of adulteration in legume based traditional food products	7thDec 2012	LA
4.	Anuradha Deorukhkar	S.I.E.S (Sion)	Characterisation and biochemical studies of isoflavones occurring in commonly consumed Indian legumes	19th Dec 2012	LA
5.	Pratipanna Dash	Sophia College, Mumbai	Studies on enzymatic protein hydrolysis and characterization of protein hydrolysates	21st Oct 2013	LA
6.	Gayatri Bakshi	G.N.Khalsa College (Matunga)	Studies in pectinase enzymes and associated inhibitors in selected fruits	23rd Sep 2013	LA
7.	Santosh Pradhan	Mumbai University (Kalina Campus)	Detection and mitigation of Aflatoxin in selected food commodities and food products	16th Apr 2015	LA
8.	Amruta Karangutkar	G.N. Khalsa College, Mumbai	Studies on extraction, characterization, stabilization of natural pigments	1st May 2015	LA
9.	RIddhi Sota	Lokmanya Tilak Municipal Medical college, Mumbai	Studies in PPO enzyme in food sources (tentative)	20th April 2015	LA
10.	Akshata Raosaheb Salve	Guru Nanak Khalsa College, Mumbai	Development of a Peanut based functional foods.	7th March, 2014	
11.	Prajakta Sadawarte	Dr. Balasaheb Sawant Konkan krishi vidyapeeth, Dapoli	In process		SSA
12.	Prajakta Ankush Insulkar	Birla College, Kalyan	Studies on the production of expolysaccharide from halotolerant bacteria and its biotechnological application (BT)	March 2014	SSL
13.	Anamika Amit Banerji	SNDT University, Mumbai	Indian flat breads Physico chemical and nutritional aspects (FS)	April 2014	SSL
14.	Harshali	St. Xavier's	Studies on Ficusbenghalensis	Sept 2010	SSL

	Bandekar	College, Mumbai	using biotechnological approach (BT)		
15.	Supriya Raut	G.N. Khalsa College, Mumbai	Studies in carbonate degrading & precipitation microorganisms in materials(BT)	Aug 2009	SSL
16.	Dhiraj Gohil	Institute of Science, Mumbai	Fermentation of dietary fibers *in vitro* with human colonic bacteria (BT)	Sept 2010	SSL
17.	Mangesh Inarkar	Department of Biotechnology, University of Mumbai	Studies on utilization of agricultural waste.(BT)	Aug 2009	SSL
18.	Majeed Jamkhani	SASTRA University, Tamil Nadu	Study on Isolation and Characterization of Allergens of Large Varieties of Tomatoes in Indian Population	July 2013	SSL
19.	Misra Rachana*	University of Allahabad	Study on plant gums (BT)		USA
20.	Digole Shraddha* (UGC SAP)	Institute of Science, Mumbai	Fermentativeproduction and downstreamprocessing of mycophenolicacidusing biotechnologicalapproach (BT)	Sept2010	USA
21.	Datta Suprama* (CSIR)	Birla College, Mumbai	Characterization and profiling of Saccharomyces boulardii (BT)	July 2013	USA
22.	Bagul Vaishali *(UGC SAP)	KTHM College, Nashik	Studies in fermentative production and downstream processing of docosahexanoic acid (BT)	August 2013	USA
23.	Rahman Momin Bilal M. (UGC SAP)	Institute of Science, Mumbai	Fermentative production and downstream processing of arginase (BT)	July 2013	USA
24.	Vaidya Aniruddha (UGC SAP)	Dept. of Microbiology, University of Pune	Development of phage-based biosensor (BT)	December 2012	USA
25.	Ghanate Aarti * (UGC SAP)	Shivaji University, Kolhapur	Studies in traditional foods: process and technology development (BT)	December 2012	USA
26.	Bhagwat Ashlesha * (UGC SAP)	K.J. Somaiya College, Mumbai	Studies in probiotics (BT)	December 2012	USA
27.	Suman Kumari	Lady Irwin College, Delhi	Community based studies on human milk composition of Indian breastfeeding mothers	September, 2016	USA
28.	Anusha Mishra	Punjab Agricultural University, Ludhiana	Development of low glycemic index food	October 2017	USA

29.	Janve Madhura Pramod	Khalsa College, Mumbai	Chelates of Iron with Amino Acids and Sugars for Improved Bioavailbiility and Stability	July 2015	RSS
30.	Marathe Sandesh Jagdish	Pune University	Biotrasformation of biomolecules	April 2015	RSS
31.	Manvi Jayant Vernekar	Ruia College of Arts Science and Commerce, Mumbai	Gene-diet-disease interaction of polyunsaturated fatty acid metabolism	December 2012	RSS
32.	Jayashree Harihara Subramanian	Mumbai University	Fermentative Production and Downstream Processing of Fucoxanthin	August 2010	RSS

SSL: Prof. S.S. Lele; RSS: Prof. R.S. Singhal; USA: Prof. U.S. Annapure; LA: Dr. Laxmiananthanarayan; SSA: Dr. S.S. Arya

39. Number of post graduate students getting financial assistance from the university: Nil

40. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. NA

41. Does the department obtain feedback from

- Faculty on curriculum as well as teaching-learning-evaluation? If yes,how does the department utilize the feedback?
  Yes. The feedbacks are discussed in board meeting and necessary steps are taken.
- Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
  Yes. They are discussed in faculty meeting for further action or improvement.
- Alumni and employers on the programmes offered and how does the department utilize the Feedback? No.

42. List the distinguished alumni of the department

- Prof. Rakesh Banzai
- Prof. C.J.K. Henry
- Prof. P.R. Kulkarni
- Prof. D.V. Rege
- Prof. S.S. Lele
- Dr. Deepa Bhajekar
- Mr. L.R. Chadha

43. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

Sr. No.	Date	Fellowship	Distinguished Speaker/	Title of Lecture

			Affiliation	
1.	October 30, 2017	--------	Dr. Sergio Neves and Dr. Thierry Marcel Roquette Pvt. Ltd.	How to transfer natural raw materials into sustainable nutrition and health speciality solution
2.	August 28, 2017	-------	Reena Chaudhary, DuPont Nutrition & Health, Mumbai ,India,	Innovative food ideas in local and ethnic food industry'
3.	February 27, 2017		Mr. Ashish Yadav Anton Paar, India	Analytical and Preparative Instrumentation for the Food Industry
4.	December 7, 2016	-------	Mr. Irshad Shaikh, Senior Manager-Technical, Keva Flavours, Mumbai	'Flavours and its application in food industry'
5.	December 9, 2016	--------	Dr. Dilip N. Kulkarni, President-Agri Food Division Jain Irrigation Systems Limited, Jalgaon	How the Supply-Chain-System, Integration of Backward & Forward Linkages and farmers benefitted?
6.	January 1, 2015	-	Prof. K. Niranjan, University of Reading, UK	How to publish successfully in An era of changing publishing paradigm
7.	January 17,2015	Golden Jubilee Visiting Fellowship	Dr.AlankarVaidya, Scientist, Scion, New Zealand	An efficient process for the conversion of *Radiata pine* to sugars suitable for biofuel production
8.	January 30,2015	Professor B.D. Tilak Visiting Fellowship Endowment	Dr.Amaraendra N. Pathak, Dean Research, Amity University Rajasthan, Jaipur, India	i)Modern technology management and its strategy for chemical and allied industries ii)Troubleshooting during antibiotics production in fermentation industry
9.	November 7, 2014	-	Prof. Adinpunya Mitra, IITKharagpur	Discovering metabolic Route to phenolic fragrance Formation in *Hemidesmus indicus* (Anantmul) roots
10.	October 8, 2014	-	Dr. S. P. Kochchar	Frying oils and TOM for Quality snack production
11.	August 12, 2014	-	Prof. MukundV. Karwe	High pressure processing of foods: opportunities and challenges
12.	July 19, 2014	-	Prof. S. N. Upadhyaya	Biomassas feedstock for Chemical processes
13.	July 18, 2014	-	Mr.Anil Chittar	Food process equipment, Design and challenges
14.	September 16, 2013	Organized under TEQIP Prof. Stephen Knabel	Prof. of Food Science, Department of Food Science, Pennsylvania State University, USA.	Bacterial Growth Curves and Their Implications for Food Safety

15.	September 07, 2013	Guest lecture jointly with PFNDAI	Mr.U. Purnachand, Solae	Advantages of Soya in Sports & other Physical Activities
16.	August 31, 2013		Dr. S. K. Samant, Vice President, R & D, Cadbury India Ltd.	Recent advances in chocolate manufacuring
17.	August 16, 2013	Marico Industries Visiting Fellowship	Professor Jayant R. Bandekar, Professor Homi Bhabha National Institute(Deemed University), Head, Radiation Biology & Health Sciences Division (BARC)	Microbiological aspects of radiation processing of food
18.	July 22, 2013	Golden Jubilee Visiting Fellowship	Dr. Shyam Sablani, Associate Professor of Food Engineering Biological Systems Engineering	Smart Packaging Technologies
19.	June 15, 2012	Prof. A. Sreenivasan Endowment Lecture	Mr. Balaji Shetty, Oxyrich	Package Drinking WaterSafety Issues and Growth
20.	February 22, 2012	Prof. A. Sreenivasan Endowment Lecture	Dr.Kalpagam Polasa, Head, Food & Drug Toxicology Research Centre, National Institute of Nutrition (ICMR), Hyderabad	Innovations in Food Safety Challenges and Opportunities Including Nanotechnological Applications
21.	February 17,2012	Lupin Visiting Fellowship Lecture	Dr. Girish B. Mahajan, Senior Group Leader, Anti-infective Screening & Prokaryote Isolation, Department of Natural Products, Piramal Healthcare	Microbes :A source for New Antibiotics for Bad Bugs
22.	February 9,2012	Prof. B. D.Tilak Fellowship Lecture	Dr. Rajendra Kokane Professor and Head, LivestockProduct Technology,Veterinary College, Mumbai	Protecting the Safety of Milk
23.	January 24,2012	Marico Industries Endowment Lecture	Ms. Chinmayee Deulgaonkar, Manager, Business Build, DET NorskeVaritas (DNV), Mumbai	Hazard Analysis in Food Industry

44. List the teaching methods adopted by the faculty for different programmes

- Audio-visual presentation for theory and practical classes
- Mini projects (Individual and group based projects) in individual subjects
- Research oriented final year projects and Research paper publication in conference/seminars/journals
- Invited guest lectures are regularly arranged
- Remedial classes for slow learners
- Industrial visits are arranged

- Out-of-syllabus study
- Assignments
- MCQ tests
- Quiz
- Student projects and presentations
- Group discussion
- Case studies
- Experimental laboratory work

45. How does the department ensure that program objectives are constantly met and learning outcomes are monitored?

They are performed under the guidance of faculty through continuous evaluation tests, periodic class tests, quiz, critical assessment of research papers, seminars beyond the domain, seminars, workshops and two examinations.

46. Highlight the participation of students and faculty in extension activities.

- National and international conferences
- Symposium
- Seminars
- Guest lectures
- Workshops
- Refresher course

47. Give details of "beyond syllabus scholarly activities" of the department.

Organizing co-curricular events and personnel training on various aspects such as:

- Bio-Processing of Agri-Residues
- Microbiological aspects of radiation processing of food
- Nutrition Week Activity 2013
- Bacterial Growth Curves and Their Implications for Food Safety
- Listeria monocytogenes: A Unique Foodborne Pathogen
- Seminar on Traditional Foods
- Technical session on 'Traditional Food: Challenges and Opportunities'
- World Food Day
- DBT-JRF Regional Meet
- Classroom coaching program for GATE and other entrance Exams

48. State whether the programme/ department is accredited/ graded by other agencies?

NBA

49. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Since the inception of the faculty members of FETD made significant contributions for the advancement of knowledge in disciplines such as of food engineering & technology and food biotechnology through research, innovation as well as lectures. The faculty members

wrote books and chapters in the books on trust areas of food biotechnology, food engineering and technology. The renowned faculties of FETD are in the habit of publishing more than 30 research papers per year in international recognized journals. Every year the faculty members are invited speakers on international seminars or workshops and there are international visitors in the department. The former students of the department are well placed and some of them occupy the chair of professors and head at various Indian Universities.

50. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength

- Highly qualified and experienced faculty
- Cooperation and understanding within the department
- An interdisciplinary culture involving both students and faculty
- Collaborative teaching and research
- Active support from alumni and industries for research and academics

Weaknesses

- More demanding infrastructure
- Less number of faculty with respect to students
- Lack of trained technical staff

Opportunities

- Industrial involvement for development of infrastructure
- Enrolment of students across the country
- Involvement of alumni for strengthening the academic activities
- Scholarly activities

Challenges

- To provide state-of-art research facility to students
- To make the department one of most sought in India
- Frequent up gradation of curriculum
- Competitive funds for research

51. Future plans of the department.

The main constraints which limit the realization of true potential are limited space and infrastructure, limited funding and limited opportunities for networking. If these can be tackled through generation of funding, it would definitely raise the bar.

Newer techniques of food processing and preservation as well as robust analytical methods for quality assurance is the need of the hour and which requires skilled faculty and students. The main requirement would be opportunities to showcase the work and interact with faculty from various universities. This can happen if at least attending one conference abroad in a year is facilitated for

all faculty. This can truly open up more collaborations, bring laurels to ICT, and instil a sense of pride, enthusiasm and well-being amongst the faculty and also the students.

Hence the plan of the department for next five years will be targeted to

- Get more faculty and space and also the funds for equipment and instruments
- Plan certificate and diploma courses of short term duration- some regular and some on demand Conduct industry projects more efficiently
- Begin new areas such as Agricultural Management, Food Policy Research, Food Psychology, Sports Nutrition, Maternal and Child Nutrition, and Food Regulations.

IMPROVING TEACHING AND RESEARCH IN THE DEPARTMENT BY

- Number of M. Tech students per year per faculty be restricted to 5 to enable full and proper attention to each one of them
- Number of Ph.Ds to be restricted to maximum of 20, 15 and 10 for Professors, Associate Professors and Assistant Professors, respectively.
- Younger faculty may be encouraged to supervise Ph.D students as a co-guide for first 2-3 students before taking over as full-fledged supervisors
- More laboratory space to create new labs with better infrastructure including animal house, a lab structure to carry out human trials on nutraceuticals
- Web-based learning- Endowment lectures
- Lectures on Skype from Adjunct Professors or even Visiting Faculty- if stationed abroad
- Improve networking through organizing more conferences and workshop, as well as collaborations from scientists all over the world
- Have mentors from industry, if possible, for all levels of study
- Have better and probably centralized facilities for in-plant training and placements
- Centralized analytical facilities with qualified personnel to train the students and look after the students

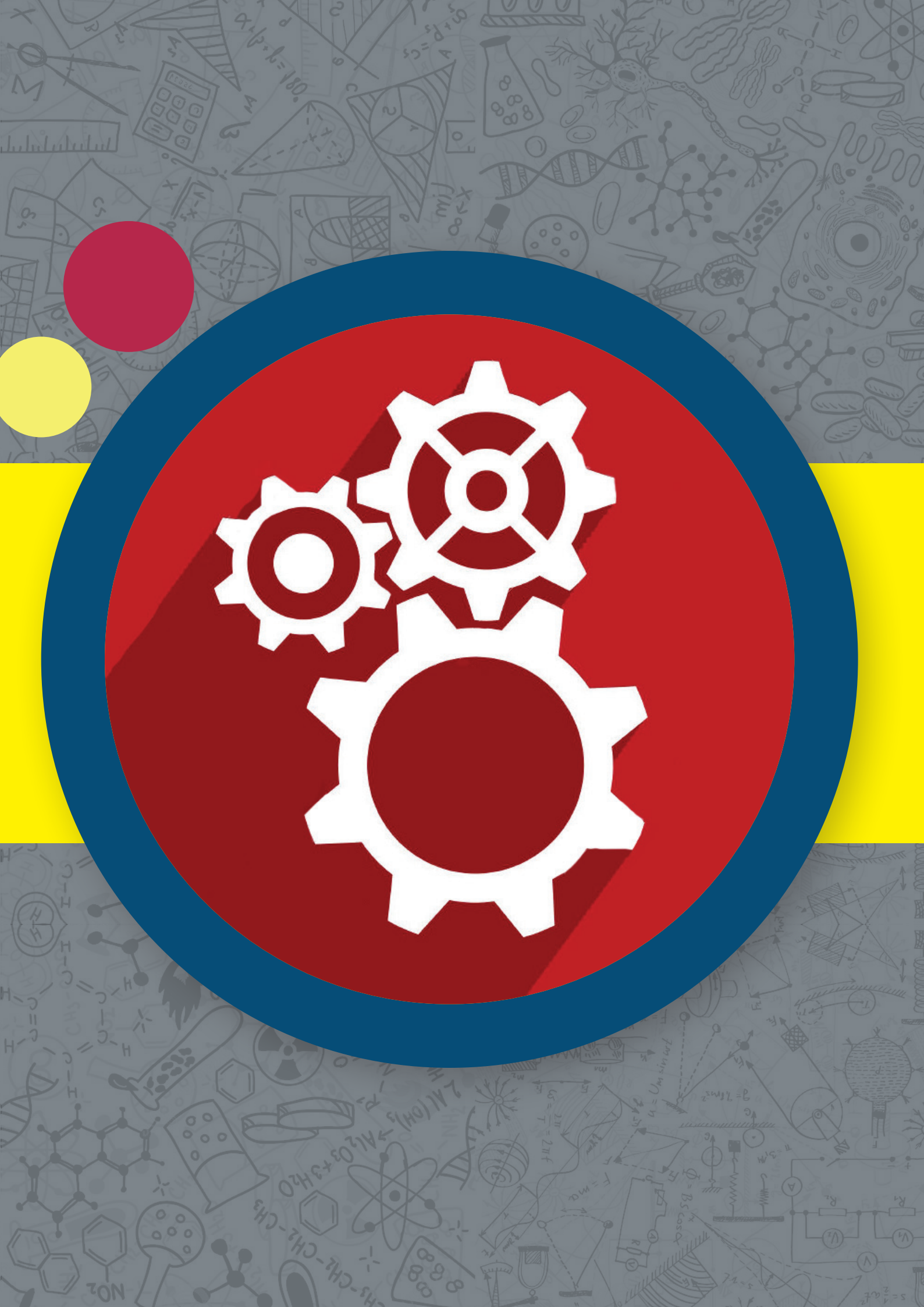
BY PROMOTING RESEARCH IN THE FOLLOWING AREAS:

Broad Area of Research	**Broad Overview**	**Involved Faculty**
Cold Plasma Technology for Food Processing	The applicability of this non-thermal technology will be evaluated for different food product with respect to its functionality, quality attributes and shelf life estimation.	Prof U. S. Annapure
Extrusion processing – process and product development	Development of Novel product through extrusion technology will be one of the thrust areas. It will be accomplished by ingredient selection, formulation, optimization of product and process parameters like barrel temperature, feed moisture content, die rpm, feed rate etc.	Prof U. S. Annapure Dr. Laxmi Ananthanarayan
Frying - Chemistry and Technology	The changes in product characteristic during frying will evaluated in view of different ready-to-eat product. The process (frying temperature and time) will be optimized thereafter considering both product and frying medium. Finally the shelf life of the product will be evaluated at a particular storage condition (RH and Temperature).	Prof U. S. Annapure Prof. R. S. Singhal
Nutraceuticals –	Extraction of different nutraceuticals from suitable agro-food industry	Prof U. S. Annapure

Chemistry, Technology and Product Development	component in view of enrichment of a particular food product. Initially the extraction condition will be optimized for a maximum yield with highest purity and stability. Further, the characterization will be done for the extracted nutraceuticals. Changes in product quality will be evaluated immediately after adding the nutraceutical (at optimized quantity) and even during storage.	Dr. Jyoti Sontakke-Gokhale
Carbohydrates - Chemistry and technology	Extraction of different carbohydrates from suitable minor grains, tubers and plant gums. Those are applicable in view of enrichment of a particular food product or a stand-alone entity. Initially the separation and purification steps will be optimized for a maximum yield with highest stability. Further, the characterization will be done for those components followed by their application in particular food matrices. Changes in product quality will be evaluated during storage.	Prof. U. S. Annapure
Traditional foods - Product and technology development	This project will be aimed primarily exploring the technical and scientific approaches in making the particular traditional food. Standardizing each process steps for the product will be one of the major objectives so that scale up will be easier. Finally the shelf-life evaluation of the product will be one of the major targets.	Prof U. S. Annapure Prof. R. S. Singhal Dr. Laxmi Ananthanarayan Dr. S. S.Arya
Fermentative production and downstream processing of enzymes-biomolecules	This project will explore the application of enzymes in different food formulations. It will not be restricted to extraction of enzyme through different fermentation process. Optimization of the fermentative extraction process will be one of the key objectives. Characterization of the enzyme and its stability kinetics will be studied further. Application of that particular enzyme in the food preparation steps will be optimized for a maximum yield and quality attributes.	Prof U. S. Annapure Prof. R. S. Singhal Dr. Laxmi Ananthanarayan Dr. S. S.Arya Dr. Jyoti Sontakke-Gokhale

Notes :

GENERAL ENGINEERING DEPARTMENT



General Engineering Department

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 of Plastics/ 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. The department has recently setup cement composites laboratory for doing work on different cement composites using Industrial wastes, construction chemicals, fibers etc.

1. **Year of establishment**: 1950
2. **Is the Department part of a School/Faculty of the university?** Yes
3. **Names of programmes offered (UG, PG, M.Phil., Ph.D., integrated masters; integrated Ph.D., D.Sc., D.litt., etc.)**

   M.E (Plastic Engineering) Post Graduate Course, Ph.D (Tech) in Mechanical, Civil, Polymer, Electrical and Electronics Engineering.
4. **Interdisciplinary programmes and departments involved**: Polymer and Surface Engineering Department.
5. **Courses in collaboration with other universities, industries, foreign institutions, etc.** NIL
6. **Details of programmes discontinued, if any, with reasons**: NIL
7. **Examination System**: Semester system
8. **Participation of the department in the courses offered by other departments**: **Undergraduate Courses B.Chem. engg and B.tech (all Branches)**
   a) Structural Mechanics to SY Chem Engg
   b) Engineering Mechanics and Strength of Materials to SYB Tech (all Branches)
   c) Engineering Graphics-I for B.chem.Engg and B.Tech (allBranches)
   d) Electrical Engineering and Electronics: B.chem. Engg and B.Tech (all Branches)
   e) Process Equipment Design and Drawing 2
   f) Engineering Graphics 2 for B.chem.Engg
   g) Energy Engineering for B.chem.Engg.
   h) Advanced Strength of Materials (Elective) for B.chem.Engg
      (i) Design & Fabrication of Molds I
      (ii) Design & Fabrication of Molds II
      (iii) Design of Molds (Drawing)
9. **Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors /Asst. professors/ others)**

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	----	2
Associate Professors	4	3	3
Asst. Professors	4	1	1
Others	----	---	---

10. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance**

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./M. Phil.students guided for the last 4 years
Dr A.C Rao	B.E.(Mech.), M.E (Mech), PhD (Plastic Engg) (Tech)	Associate professor in Mechanical Engineering	Plastic Engineering	24 (Retired)	1-PhD, 5-M.E (Plastic)
Prof S.P. Deshmukh	B.E (Prod), M.E (Prod), PhD (Tech) Plastic Engg	Workshop Superintendent/ Professor	Plastic Engineering	19	1-PhD, 5- M.E
Dr D.D Sarode	B.E (Civil), M.E, PhD (Civil)	Associate Professor in Civil Engg	Civil/Structural Engg	19	1-PhD, 4-M.E
Prof. V.R. Gaval	B.E.(Prod), M.E.(Plastic), Ph.D (Tech) Plastic	Professor in General Engg.	Plastic Engg.	23	Four M.E.
Dr. R.S.N. Sahai	B.E.(Mech), M.E.(Plastic), Ph.D (Tech) Plastic	Associate Professor in Mechanical Engg.	Plastic Engg.	18	Four M.E.
Dr. M.A. K. Kerawalla	B.E.(Electrical) M.E.(Electrical)	Associate Professor in Electrical Engg.	Electrical Engg.	28	-
Ms. Prerna Goswami	B.E.(Electrical) M.E.(Electrical)	Assistant Professor in General Engg.	Electrical Engg.	18	-

11. **List of senior visiting fellows, adjunct faculty, emeritus professors**
    Dr. D. D. Kale for teaching Polymer Chemistry, Dr M.B.Parmar, Dr Asit Samui
12. **Percentage of classes taken by temporary faculty– programme-wise information**: 20%
13. **Programme-wise Student teacher ratio** : 2:1 for M.E(Plastic Engg)
14. **Number of academic support staff (technical) and administrative staff : sanctioned, filled and actual**: Sanctioned: 36 (35 Technical and 1 administrative), Filled: 25
15. **Research thrust areas as recognized by major funding agencies:** Polymer processing and composites.

16. **Number of faculty with ongoing projects from a) national b) international funding agencies and c) total grants received. Give the names of the funding agencies, project title and grants received project-wise.** Two faculties
    1) Cycle time reduction in roto molding funding agency is UGC from 2011-2014 & Total amount is10 lacks, PI/ Co-PI – No.
    2) Development of water resistant plaster from gypsum. Total Grant sanctioned: 21.26 lakhs funding agency RCF Ltd.
    3) Mitigation of water problems in Ausa Town, Later: Waste water Mangement. Total amount sanctioned : 1,98,47000
17. **Inter-institutional collaborative projects and associated grants received:** NIL
    a) National collaboration b) International collaboration
18. **Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received**: one project funded by DST.R
19. **Research facility/centre with** : NIL
    a) State recognition
    b) National recognition
    c) International recognition
20. **Special research laboratories sponsored by /created by industry or corporate bodies**: NIL
21. **Publications**:

	Dr. S. P. Deshmukh	Dr.A. C. Rao	Dr. D. D. Sarode	Dr.V. R. Gaval	Dr. R.S. N. Sahai	P. Goswami
Number of papers published in Peer reviewed journals (national/ international)	27	6	9	6	8	18
Chapters in Books:	2	0	5	0	0	0
Citation Index	45	20	94	12	-	-
Impact Factor	0.5-3.5	0.5-2	0.5-4	0.5-1.5	0.5-1.5	0.8
h Index	4	4	4	2	0	0

22. **Details of patents and income generated:** "A Water Resistant Phosphogypsam Composition" 12th December 2014.
23. **Areas of consultancy and income generated**

a) Hindustan Unilever ltd.2013- Expert opinion on Patentability of Indian patent (Rs.100000)

b) Hindustan Unilever ltd.2014- Expert opinion on Patentability of Indianpatent (Rs.100000)

24. Faculty selected nationally / internationally to visit other laboratories / institutions industries in India and abroad : NIL

25. Faculty serving in a) National committees b) International committees c) Editorial Boards d) Any other (please specify) : NIL

26. Faculty recharging strategies (UGC, ASC, refresher/orientation programs, workshops, training programs and similar programs).

1. One week Faculty Development Program under TEQIP at Welingkar Education October 15-22, 2012
2. Two week ISTE WORKSHOP on Engineering Thermodynamics by IIT Bombay under National Mission through ICT(MHRD), 11th to 21st December,2012
3. One week Faculty Development Program under TEQIP at VJTI, Mumbai 18th to 22nd February2013
4. One week workshop and training course under TEQIP at ICT, Mumbai organized by UGC and NRC, 10-14 June,2013
5. One week short term course by National Institute of Technical Teachers Training and Research (NITTR), Pune, recognized by AICTE, 16-20 June,2014
6. One week workshop under TEQIP at ICT, Mumbai , 5-10 July,2014
7. One week training program at ICAR-CIRCOT, Mumbai sponsored under TEQIP, 5-9 October,2015 (R.S.N.Sahai)
8. Attended 1-week workshop on 'Honing Mentoring Skills-A Holistic way' at ICT Mumbai, (July 3-8 2014).
9. Dr. D.D. Sarode attended continuing education program and Quality Improvement program under TEQIP at IIT Bombay on "Institution Building through Appreciative Mindset" from 24th Jan 2013 to 4th Feb 2013
10. Dr. D.D. Sarode, Dr. V.R. Gaval and Dr. RSN Sahai attended under TEQIP one week training program on Management Capacity Building at Wellingkar Institute of Management and Research.
11. Dr. D.D. Sarode attended a 8 days faculty development program under TEQIP on "Management Capacity Building" 15th to 22nd Oct.2012 at Wellinkar Institute of Management and Research, Mumbai 19

12. Dr. D.D. Sarode attended a AICTE approved Short term training program Application of Finite Element Method in Civil Engineering" 16th to 20th April 2012, at VJTI, Mumbai 400019
13. Dr. D.D. Sarode attended a TEQIP sponsored one week training program "Performance Based Design of Structures" 22nd to 26th March 12 at VJTI, Mumbai
14. Dr. D.D. Sarode attended Damage Assessment and Repairs Methodology for RCC Structures AICTE approved short training program 9th to 13th Jan 2012 at VJTI, Mumbai 19
15. Dr. S.P. Deshmukh attended ISTE Workshop on Heat Transfer, conducted by IIT Bombay form 29th Nov. to 10th December 2011.
16. Dr. S.P. Deshmukh attended 6th International Workshop on Crystalization, filtration, Drying, Milling and Granulation, organized by WFCFD & ICT during 16 to 18 Feb. 2012.
17. Dr. S.P. Deshmukh attended ISTE Workshop on Introduction to Research Methodologies, conducted by IIT Bombay form 25th June 2012 to 4th July 2012
18. Dr. S.P. Deshmukh attended MHRD's National Mission for Teachers, Management Capacity Enhancement programme at IIM Indore between 16th to 25th Jan. 2013.
19. Dr. S.P. Deshmukh attended Workshop on 'Outcome Based Accreditation Process and Parameters' Delhi Technological University, Delhi 42, held on 21st– 22nd Sep. 2012.
20. Dr. S.P. Deshmukh attended a Workshop on MHRD Govt. Of India program on Survey of Higher Education in India, at Marathwada Mitra Mandal's Commerce College, Deccan Gymkhana Pune, 10th Oct.2012
21. Dr. S.P. Deshmukh attended a 10 days training program under TEQIP at IIM Indore on "Management Capacity Building
22. One week Faculty development program on Managing Change at Welingkar Institute of Management, Mumbai from (3-7) November2008.
23. One week Short term course on state estimation of non linear dynamical systems conducted by IIT, Madras at VJTI, Mumbai from 6/1/2014 to 10/1/2014
24. One week Workshop on smart grid cybersecurity, conducted by ISGF CDAC&NDLS, VJTI, at Mumbai from 13/1/2014 to 17/1/2014
25. Short term course on Research Methodology, conducted by TEQIP, VJTI at Mumbai from 3/2/2014 to 7/2/2014.
26. 1 week workshop on 'Honing Mentoring Skills-A Holisticway'at ICT Mumbai from July 3-8,2014

27. V.R. Gaval attended International Conference on Advances in Mechanical Sciences held at Malnad College of Engineering , Hassan, Karnataka between 3rd March to 5th March 2017.
28. V.R. Gaval Technical session chair and invited speaker at 4th international conference organized by International society for Engineers and Researchers on 16th August 2015 at Bangkok.
29. V.R. Gaval presented paper titled “effect of particle size and concentration of flyash on properties of polytrimethyleneterepthalate“ at International conference on chemical, Metallurgy and Materials science engineering held on 10-11 August 2015 at Pattaya, Thiland.
30. V.R. Gaval attended 3 day workshop on “ Quality initiatives in Technical and Higher Educational Institutions at Engineering staff college of India from 7-9 October 2015 ,Hydrabad.
31. V.R.Gaval attended two days public training programme titled “ Patent specification, drafting and international patent filing procedure “ conducted by Rajiv Gandhi national institute of Intellectual property Management , Nagpur 0n 22nd -23rd September 2016.
32. V.R.Gaval attended one week workshop on “ Polymer and polymer nano-composites processing “at R.V.College of Engineering , Bengaluru between 27th June to 2nd July 2016 under TEQIP 2
33. Prerna Goswami attended one week workshop on ‘Honing Mentoring skills- A holistic approach’ from July 3-8, 2014 at ICT, Mumbai (organized under TEQIP)
34. Prerna Goswami attended one week Workshop on ‘Renewable Energy and Ancillary Services’ from December 9-13, 2016, organized by COE (CNDS), VJTI, QIP and Continuing Education Program (QICEP), IIT Delhi (under TEQIP)
35. Prerna Goswami one week Faculty Development Program under AICTE sponsored QIP on ‘High Voltage and Partial Discharge’ from 14-19 December 2016 at VJTI, Mumbai
36. Prerna Goswami one week FDP under AICTE (QIP) on
37. ‘Wave Theory and applications’ from 2-7 January, 2017 at VJTI Mumbai
38. Prerna Goswami one week TEQIP II sponsored workshop on SMART GRIDS: RENEWABLE INTEGRATION & MICROGRIDS organized in collaboration with CODTE, IIT Kanpur from 25 February, 2017 to 1 March 2017 at VJTI Mumbai.
39. Prerna Goswami attended 2 days workshop on Faculty and staff development for Improved Competency and Management Capacity Enhancemen on 21 and 22 March 2017.

40. Prerna Goswami participated and Presented a research paper on ‘Assessment of Wave Energy along Western Coast of India’ at ‘XIII Triennial Conference on Sustainable Development in India: Role of Science and Technology’ organized by Indian Women Scientists Association (IWSA) from 2-4 Dec, 2016.
41. Prerna Goswami given Invited lecture on ‘Electrical Safety’ in Laboratory safety workshops for Ph.D. students and Non Teaching Staff organized under TEQIP by Department of Chemistry at ICT, Mumbai in year 2014
42. D.D. Sarode attended a short term course on Sustainability in Constructions : Materials and Management, 30th May 2016 to 1st June 2016 at Indian Institute of Technology, Guwahati, Aasam.
43. M.A.K. Kerawala attended one week workshop on ‘Honing Mentoring skills- A holistic approach’ from July 3-8, 2014 at ICT, Mumbai (organized under TEQIP)
44. M.A.K. Kerawala attended one week Workshop on ‘Renewable Energy and Ancillary Services’ from December 9-13, 2016, organized by COE (CNDS), VJTI, QIP and Continuing Education Program (QICEP), IIT Delhi (under TEQIP)
45. M.A.K. Kerawala attended one week Faculty Development Program under AICTE sponsored QIP on ‘High Voltage and Partial Discharge’ from 14-19 December 2016 at VJTI, Mumbai
46. M.A.K. Kerawala attended one week FDP under AICTE (QIP) on‘Wave Theory and applications’ from 2-7 January, 2017 at VJTI Mumbai
47. R.S.N. Sahai attended International Conference on Advances in Mechanical Sciences held at Malnad College of Engineering , Hassan, Karnataka between 3rd March to 5th March 2017.
48. R.S.N. Sahai presented paper titled “Studies on Mechanical Properties of Mica Filled PPO Composite with Coupling Agent “ at International conference on Polymer Processing and Characterization on 9-11 December 2016 at Kottayam, Kerala.
49. R.S.N. Sahai attended one week short term course on “ Understanding Learner Dynamics” at UGCHRD Centre University of Mumbai from 7th to 12 November,2016.
50. R.S.N. Sahai attended one week course on “Wave Theory and Applications” at V.J.T.I Mumbai from 2nd to 7th January,2017.
51. R.S.N. Sahai attended three days workshop on “Outcome based Assesment & Accreditation Preparation of NBA -SAR” at Shimla from 24th to 26th March 2017.

27. Student projects

- Percentage of students who have done in-house projects including inter-departmental projects: 40%
- Percentageofstudentsdoingprojectsincollaborationwithotheruniversitiesindustry/ institute: 60% In Collaboration with Industry

28. Awards /recognitions received at the national and international level by

a. Faculty- 4

b. Doctoral/postdoctoral fellows- 2

c. Students- Nil

29. Seminars/ Conferences/Workshops organized and the source of funding (national /international) with details of outstanding participants, if any : NIL

30. Code of ethics for research followed by the departments :

The Institute has a set Code of Conduct for research and the Department follows the same.

31. Student profile programme-wise:

Name of the Programme Refer to Question no. 4	Applications Received	Selected		Pass Percentage	
		Male	Female	Male	Female
M.E (Plastic Engineering)	10 (2012-13)	4	1	100%	100%
M.E (Plastic Engineering)	23 (2013-14)	6	1	100%	100%
M.E (Plastic Engineering)	15 (2014-15)	9	1	100%	100%
M.E (Plastic Engineering)	13 (2015-16)	4	--------		
M.E (Plastic Engineering)	12(2016-17)	2	0		

33. How many students have cleared Civil Services and Defense Services examinations, net, Set, Gate and other competitive examinations? Give details category-wise: NA

34. Student progression:

Student progression	**Percentage against enrolled**
UG to PG	--------
PG to M.Phil.	--------
PG to Ph.D.	20%
Ph.D. to Post-Doctoral	Nil

Employed

Campus selection	20%
Other than campus recruitment	80%
Entrepreneurs	5%

35. Diversity of staff

Percentage of faculty who are graduates

- of the same university 70%
- from other universities within the State Nil
- from universities out side the country Nil
- from universities other state 30%

36. Number of faculty who were awarded M.PHIL., PH.D.,D.SC. and D.litt. during the assessment period. 3 faculties were awarded Ph.D(tech) Degree in last 4 years

37. Present details of departmental infrastructural facilities with regard to

a. Library: Central library in the Campus

b. Internet facilities for staff and students :Yes

c. Total number of classrooms :three Class room

d. Classrooms with ICT facility: nil

e. Students' laboratories: 3

f. Research laboratories: 3

38. List of Doctoral Students:

Year 2009-10			
1	Sandesh S Ramteke	Studies on Polytetrafluoro- ethylene as an additive for lubricating materials for various applications	Dr.A.C. Rao
Year 2011-12			
2	V. N. Palaskar	Standeration of geometrical configurations of hybrid(PV/T) solar system	Dr.S.P. Deshmukh
3	Dipak Kokate	Sustainability through integration of solar water Pumps and micro irrigation systems in Agriculture Sector.	Dr.S.P. Deshmukh

	Asha S Dahake	Value Addition for industrial waste	Dr.D.D. Sarode
Year 2012-13			
4	Ashok kumar Bharimalla	Production of Nanocellulose by Chemo-Mechanical Process and its application in	Dr.S.P. Deshmukh
5	PD'souza	Use of micro channel heat sink in refrigerator to enhance the heat transfer rate to enhance cop	Dr.S.P. Deshmukh
6	M. P. Deshmukh	Development of fibre reinforced composite	Dr.D.D. Sarode
Year 2013-14			
7	Vikramshinha S Korpale	Optimization of Solar Assisted Dryer for Thermal Power Regeneration	Dr.S.P. Deshmukh
8	Khalid Usmani	Investigation on Phase Change Due to Heat Transfer in Micro-channel/capillaries	Dr.S.P. Deshmukh
9	Navnath Kavhale	Design and Analysis of Solar Chimney Power Plant	Dr.S.P. Deshmukh
Year 2014-15			
10	S. Raji Rajaraman	Recycling of waste	Dr.D.D. Sarode
Year 2015-16			
11	Prassanti Kulkarni	To Optimize the Performance of a Traditional Solar Cell Using Embedded PV Converter	Dr.S.P. Deshmukh
12	Vishnu G Arude	Design & Development of Single Locking Cotton Feeder for Double Roller Gin For Enhancing Ginning Efficiency	Dr.S.P. Deshmukh
13	Deepankar Biswas	Design & Optimization of Concentrated Solar Thermal Collectors	Dr.S.P. Deshmukh
14	Rohan S Oak	Optimization of Water Demand by use of Biochar for Agriculture Production	Dr.D.D. Sarode
15	Phirke Avinash Nilkanth	Industrial Wastes for Development of cement composite materials for low cost housing	Dr.D.D. Sarode
Year 2016-17			
16	Prakash V. Shirsat	Development of Efficient Treatment System for reuse of Municipal Wastewater	Dr.S.P. Deshmukh
17	Mr. Mahammadayub A Gulbarga	Design & Development of processes for Making natural Fibre-Polypropelene Bio-degradable pallets, upscalling manufacturing and veritable process Optimization	Dr.S.P. Deshmukh
18	Rupesh K Behra	A Holistic Relation between key Performance Indicators and their Influencing Factors for Sustainability in Manufacturing for Small and Medium	Dr.S.P. Deshmukh

		Scale Enterprises in Indian Scenario	
19	Jitendra S Thombre	Experimental and Numerical Analysis of Heat distribution for Solidification of Polypropelene inside the barrel of Vertical Injection Moulding machine	Dr.S.P. Deshmukh
20	Pragya Jain	Cost effective Inverter with Improved Efficiency and Increased Stability by Cascading DC-DC Converter with Multilevel Inverter	Dr.S.P. Deshmukh
21	Sagar Mukundrao Gawande	Development of eco-friendly sustainable model for waste management in small towns	Dr.D.D. Sarode

39. Number of post graduate students getting financial assistance from the university: 1

40. Was any need assessment exercise undertaken before the development of new programme(s)? if so, highlight the methodology : NA

41. Does the department obtain feedback from

i. Students and faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Teaching and infrastructure. This feedback helps in deciding the curriculum of the programmes as well as improving teaching learning and evaluation methods.

ii. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Feedbackisutilizedforteaching–learningevaluationfordesigningsyllabusforthe programme.

42. List the distinguished alumni of the department

Dr M.B.Parmar	Managing Director, Polyblend colour Concentrate
Satej.M. Nabar	Senior Manager, BASF
Manoj Patil	Head, Supplier readiness Management Volksagen, India Pvt. Ltd. Pune
Dr Jitendra Kapadia	Buisness Development Manager, BASF
Sunil Khokhrale	Senior Manager, TCS, Pune
Rajendra Nimbargi	Senior Manager (Operations) Helvoet, Rubber and Plastic Technology, Pune
Ravindra kumar Gupta	Vice President R&D, Camlin India ltd
Dr.A.C. Rao	Associate Professor, ICT, Mumbai

43. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

1) Dr.M.B.Parmar, Polyblend master batcheson"Masterbatch"12thDec2012at3.30pmfor M.E. (PlasticEngg) students.
2) Dr.SugunaNaik, Pidilite Industries, Andheri, on "Polymer Based Construction Chemicals" Lecture was organized for M.E.(Plastic Engg) and SYB Tech students under TEQIP on 6th Oct 2012 from 1.30 pm to 3.30pm in KV Auditorium.
3) Dr. Mangesh Joshi, Director, Sanrachana Structural Strengthening Pvt. Ltd "Glass and Carbon Fibre Polymer Composites" Lecture was organized for M.E.(Plastic Engg) and SY BTech students was organized under TEQIP on 6th Oct 2012 from 11am to 12.30pm in KV Auditorium
4) Prof. Dr.G.M.Sabnis, Emiritus Professor, University of Howard, USA on "Sustainable Energy efficient homes Reality is now!" for faculty and students of ICT under TEQIP on 20th Feb 2013 at 2 pm
5) Prof. Ravi Kumar Gupta, ITW Ltd on "Plastic Product Design" on Monday 18th Feb. 2013, 9 am to 10.30 am under TEQIP for M.E. (Plastic Engg) students.
6) Mr.V.Karunakara Raju, Head–Manufacturing & supply management, Siemens Ltd. on "Plastic Products for switch gear applications" 2nd March 2013 at 11.00 am for M.E. (Plastic Engg) students.
7) Dr.Mahesh Dhekane, Manager-Technology, Clariant Ltd (India) on "Masterbatch" Lecture was organized for M.E. (Plastic Engg) students under TEQIP by on 6thApril 2013.
8) Mr.GopalKabra, Manager-Business Development, Helvoet Rubber & Plastics, Pune on "Techno-commercial evolution of injection molded components" Lecture was organized for M.E. (Plastic Engg) students on 6thApril 2013. (find exact date)
9) Dr.M.B.Parmar, Managing Diector, Polyblend Masterbatches on "Additives for Plastic industry" 22nd Nov. 2013 at 3.30 pm to 5.30 pm for M.E. (Plastic Engg) students.
10) Dr.M.B.Parmar, Polyblend masterbatches on "Recycling of Plastic waste" 29th Nov.2013 at 3.30 pm for M.E. (Plastic Engg) students.
11) Dr. Sachin Waigonkar, Department of Mechanical Engg., BITS, Pilani, K.K.Birla Goa Campuson "Rotational Moulding of LLDPE using Nano scale reinforcement".Lecture was organized for ME (Plastic Engg.) students on 7th March 2014 at11.00 am.
12) Dr.M.B.Parmar, Managing Diector, Polyblend Master batches on "Master batches for Plastic industry" 13th August. 2014 at 3.30 pm to 5.30 pm for M.E. (Plastic Engg) students.
13) Dr.M.B.Parmar, Managing Diector, Polyblend Masterbatches on "Recycling of Plastics" 21st August 2014 at 3.30 pm to 5.30 pm for M.E. (Plastic Engg) students.

14) Dr.M.B.Parmar, Managing Diector, Polyblend Masterbatches on ”Additives in Plastic Packaging industry” 3rd Sept.2014 at 3.30pm to 5.30pm for M.E.(Plastic Engg)students.

15) 3rd January2015, Manoj Patil, Head, Supplier readiness Management Volksagen, India Pvt. Ltd. “Plastics in Automotive Industry”

16) 29th November 2014, Shri.R.C.Nimbergi, Senior Manager (Operations) Helvoet, Rubber and Plastic Technology, Pune. “Plastics in Automotive Industry.

44. List the teaching methods adopted by the faculty for different programmes.

Blackboard Teaching, Audio-visual aids, Participatory (Discussion), Demonstration.

45. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

We take feedback from the employer and Alumni

46. Highlight the participation of students and faculty inextension activities.

Apart from teaching all the faculties of our department are involved in various committees at Institute level.

47. Give details of “beyond syllabus scholarly activities” of the department.

Arranging industrial visits throughout the year. Interaction of students with alumni and guest speakers.

(A) Industrial Visit of Postgraduate students and Ph.D. students organized to Jalgaon from 3rd Jan to 5th Jan 2013. Dr. D.D.Sarode, Head, General Engineering Department organized the visit and accompanied the students. Students visited following industries

(B) Jain Agro Industries– Seen Jain Plastic Park, Jain hills–Solar Energy, Tissue culture and R&D laboratory, Demonstration farms to see the plastic articles, polar pumps in operation and in use. Also seen the training centre– Gurukul and the Gandhi Tirth.

(C) Heera Agro Industries Jalgaon A company of alumunus of our department to see the various plastic products used in drip irrigation systems.

(D) Heera Roto Polymers Jalgaon to see the manufacturing of tanks of various capacities by Rotational moulding.

(E) Industrial Visit for Postgraduate students and Ph.D. students organized to Helvoet Rubber & Plastic Technologies, Loni, Pune on 15th Feb 2014. Dr.V.R.Gaval, General Engineering Department organized the visit and Dr.V.R.Gaval, DrS.P.Deshmukh, Dr.R.S.N.Sahai accompanied the students.

48. State whether the program/department is accredited/graded by other agencies? If yes, give details: Not accredited

49. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Interaction with experts during seminar/conferences, Knowledge through refresher and orientation courses.

50. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

1) Faculty members from different engineering discipline background.
2) Availability of workshop facility for research setup and fabrication work.
3) Skilled assistance with industrial experience.

Weakness:

1) Limited laboratory facilities for doing research
2) Difficult to get full time research students, continuity of students
3) Department is having additional load of new construction and maintenance of institute premises.

Opportunities:

1) Possible to do research in interdisciplinary area.
2) Development of Material science and technology is great opportunity as most of the faculty are doing research in materials.
3) Can collaborate with most of the faculty members of other department.

Challenges:

1) Catering the increasing number of students for common courses
2) Vacancies in faculty positions for longtime.
3) Parallel course of MTech in Polymer Engg in the same institute.

51. Future plans of the department.: Planning to start a postgraduate course in Material Technology

Notes :

MATHEMATICS DEPARTMENT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MATH
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MATHEMATICS DEPARTMENT

The Department of Mathematics, ICT Mumbai was established in the year 1966. Since its inception, the department strives 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. In pursuit of its vision, the department wishes to (i) offer courses and programs that will ensure that the students 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.

Since the beginning, the department has been catering to the instruction in basic courses in Applied Mathematics for all the technology, chemical engineering and B. Pharm. students. However, the Department started a post graduate course in M.Sc. (Engineering Mathematics) in academic year 2011-

12. This program is supported by UGC under its innovative scheme and is an inter-disciplinary program giving emphasis in practical applications of mathematics in several engineering branches. This course is unique in nature in India. In brief, the course content is a blend of pure mathematics, optimization, computational fluid dynamics, applied statistics, mathematical finance, bioinformatics, mathematical modelling and computer programming. The students undergo continuous assessment through regular quizzes, mid and end semester exams. The faculty members give emphasis on regular assignments. Students are encouraged to give seminars on topics other than the curriculum. The M.Sc. students get an opportunity to undertake an industrial and academic visit once in a year. The trip is supported by the institute funding. The department of Mathematics also organizes remedial classes for weak students from graduate and post graduate courses. Mathematicians are invited from India and abroad to deliver colloquium talks to motivate the students. The department has well equipped computer lab with 50 all in one PCs. The students have access to different software such as MATLAB, MATHEMATICA and SPSS. In addition to this, students also use free software like R, Sage, etc. The department has its own library for its M.Sc. students, faculty members and also provides modern and high level computational facilities.

At present, the department has four faculty members. All the faculty members have doctorates from reputed institutes from India and abroad. They are working in diverse research areas and have good number of publications in peer reviewed international journals. The department faculty has co-authored several books. Faculties of the department are invited as resource person in various national, international workshops and conferences. In addition to this the faculty members were invited to be resource persons for CSIR UGC net exam preparation. The broad research areas include Computational and theoretical fluid dynamics, Applied Statistics, Mathematical Biology, Optimization Techniques etc. The department is headed by Dr. A. K. Sahu. Since the post graduate program is interdisciplinary in nature experts from leading institutes like IIT, are invited to conduct the lectures. At present the department has three research scholars.

The department regularly organizes workshops and training programmes for students and teachers. Many of these programmes have been organized in collaboration with other institutes in India.

The department had successfully completed a project entitled “Numerical studies of thermal stratification in molten sodium pool” from IGCAR worth Rs. 25 lakhs with Dr. A. K. Sahu being the principal investigator. The research outcomes of this project have been published in conferences and journals of international repute. One student working on this project obtained a Ph.D. degree.

Recently the department has submitted a proposal to the Government of Maharashtra for starting a centre for mathematical sciences. If it is sanctioned, the faculty strength of the department will increase and the thrust will be given to research in several inter disciplinary areas. Also, the department will be in a better position to start new programs which will be very much useful to students as well as society.

1. **Year of establishment:**1966

2. **Is the Department part of a school/Faculty of the university?** NO

3. **Names of programmes offered (UG, PG, M.Phil., Ph.D., integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.)**
   M.Sc. in Engineering Mathematics (interdisciplinary program) Ph.D in Mathematics

4. **Interdisciplinary programmes and departments involved**
   M.Sc. in Engineering Mathematics

5. **Courses in collaboration with other universities, industries, foreign institutions, etc. :**
   Nil

6. **Details of programmes discontinued, if any, with reasons**
   Nil

7. **Examination system:**
   Semester

8. **Participation of the department in the courses offered by other departments:**
   First Year B. Tech (all branches) and First Year B.Chem Applied Mathematics – I, Applied Mathematics – II Second Year B. Chem
   Applied Mathematics – III, Applied Mathematics - IV
   First Year B. Pharm
   Applied Mathematics-I
   First Year B. Tech
   Engineering Application of Computer
   M. Pharm
   Biostatistics

9. Number of teaching posts sanctioned, filled and actual (Professors/Associate professors/asst. professors/others)

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	1	0	
Associate Professors	3	1	
Asst. Professors	1	1	
Others (UGC Innovative Program)	2	1	

10. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. Students guided for the last 4 Years
Dr. A. K. Sahu	M.Sc., Ph.D	Associate Professor	Numerical Methods, Fluid Dynamics	19 Years	2
Dr. Ajit Kumar	M.Sc., Ph.D	Senior Assistant Professor	Differential geometry, Optimization techniques	15 Years	2
Dr. Amiya Ranjan Bhowmick	M.Sc., Ph.D	Assistant Professor	Statistics and Applied Mathematics	2.5 Yrs	NIL
Dr. V. Divya (UGC FRP)	M.Sc., Ph.D	Assistant Professor	Fluid Dynamics and Non Linear Dynamics	1 Year	NIL

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors

a) Prof. Akhlaque Ahmad
b) Dr. Mangala Gurjar
c) Dr. Gollakota V. V. Hemasundar
d) Mr. Madan Mohan Agarwal
e) Dr. Kalpana Phal
f) Dr. Chaitanya Senapathi
g) Mr. Nikhil P Mamaniya & Mrs. Smita D. Bole

12. Percentage of classes taken by temporary faculty – programme-wise information

M.Sc in Engineering Mathematics : 40%
B. Chem: 50%
B. Tech: 66%
B.Pharm: 100%

13. Programme-wise student teacher ratio

M.Sc in Engineering Mathematics:	6:1
B. Chem:	80:2
B. Tech:	140:2
B. Pharm:	30:1

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Sanctioned: 1

Filled: 1

Actual: 2 (1 Temporary)

15. Research thrust areas as recognized by major funding agencies

Computational Fluid Dynamics, Optimization Techniques, Mathematical Biology, Non Linear Dynamics, Ecological and Environmental Model, Statistical Modeling, Data Analysis

16. Number of faculty with ongoing projects from a) national b) international funding agencies and c) total grants received. Give the names of the funding agencies, project title and grants received project-wise.

None

17. Inter-institutional collaborative projects and associated grants received

a) National collaboration

Indira Gandhi Centre for Atomic Research

Project Title: Numerical Simulation of Thermal Stratification in Molten Sodium Pool (Completed)

b) International collaboration: No

18. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

None

19. Research facility / centre with

- State recognition: None
- National recognition None
- International recognition None

20. Special research laboratories sponsored by / created by industry or corporate bodies : None

21. Publications:

- Number of papers published in peer reviewed journals (national / international) 13
- Monographs : 0
- Chapters in Books : 7
- Edited Books - No
- Books with ISBN with details of publishers -
- A Basic Course in Real Analysis with S. Kumaresan, Chapman and Hall/CRC , 2014, ISBN No. 9781482216371
- Calculus using Sage, jointly with Sang-Gu Lee, SKKU, Robert Beezer,published by Kyungmoon Books, 2014, ISBN 978-89-6105-458-4
- Online book on "Linear Algebra with Sage", Ajit Kumar, Sang-Gu Lee and others, ISBN-978-89-24-03105-8, by Kyobobook.
- A Foundation Course in Mathematics, Ajit Kumar, S. Kumaresan and Bhaba Kumar Sarma, ISBN No. 978-81-8487-610-9, Narosa Publishing House, New Delhi.

Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) -

- Citation Index – range / average -87
- SNIP - No
- SJR - No
- Impact Factor – range / average – 4.38
- h-index – 3.5

22. Details of patents and income generated : None

23. Areas of consultancy and income generated : None

24. Faculty selected nationally/internationally to visit other laboratories / institutions/industries in india and abroad

Dr. Ajit Kumar
Dr.Amiya Ranjan Bhowmick

25. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify) Member of national core committee of MTTS Programme

26. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

Faculty of the Mathematics Department are provided with all necessary help for attending national, international level Workshops and Training Programs. They are also involved in conducting national level programes in engineering and applied mathematics.

27. Student projects

a. percentage of students who have done in-house projects including inter-departmental projects: 100%

b. percentage of students doing projects in collaboration with other universities

1. industry / institute: 0%

28. Awards / recognitions received at the national and international level by

c. Faculty: None
d. Doctoral / post doctoral fellows
e. Students

29. Seminars/Conferences/Workshops organized and the source of funding (national/

international) with details of outstanding participants, if any. (2016-2017)

1. Workshop on Statistical Methods and R Programming 2016 jointly organized with the Agricultural and Ecological Research Unit, Indian Statistical Institute, Kolkata (February 10-15th 2016). The workshop is funded by ISI Kolkata, ICT Mumbai, UGC, TEQIP-II.
2. SPSS Training program for M.Sc. and PhD students during May 11-12th 2016. The workshop was supported by TEQIP-II.
3. TEQIP supported workshop on "Statistical Analysis using using R" for Masters and Ph.D. students during August 13-14, 2016.
4. TEQIP supported workshop on "Statistical Analysis using using R" for Masters and UG students during Sept. 16-17, 2016.
5. Industry-Academic Interaction Programme (14th May 2016) (Funded by TEQIP-II.)
6. National Seminar on Computational and Mathematical Biology (10th - 11th September 2016) (Funded by TEQIP-II)
7. Workshop on Computational Mathematics with Sage (September 23-24, 2016) (Funded by TEQIP-II)
8. Pedagogical Training using ICT Tools (October 8-9, 2016) (Funded by TEQIP-II)
9. Workshop on Machine Learning Using R, September 30- October 01, 2016. (Funded by TEQIP-II)

(2015-2016)

1. National workshop on "Pedagogical Training for Mathematics Teacher (PTMT)", November 02—07, 2015, Funded by NBHM, coordinator: Ajit Kumar.

30. Code of ethics for research followed by the departments

As per the ICT, Mumbai.

31. Student profile programme-wise:

Name of the Programme (refer to question no. 4)	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
M.Sc. in Engineering Mathematics (2017)	42	08	11		
Ph.D. in Mathematics	05(In process)				

32. Diversity of students:

Name of the Programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students From universities outside the State	% of students from other countries
M.Sc. in Engineering Mathematics	0	100%	0%	0%

33. how many students have cleared civil services and Defense services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise

Department has recently started M. Sc. Course in Engineering Mathematics. There are no Students directly enrolled in the mathematics department except the research students undergoing their Ph. D. Degree in science. Uptil now no such students have attempted the above mention competitive examination.

34. Student progression

Student progression	Percentage against enrolled
UG to PG	Nil
PG to M.Phil.	0%
PG to Ph.D.	0%
Ph.D. to Post-Doctoral	0%
Employed	100%
• Campus selection	0%
• Other than campus recruitment	90%
Entrepreneurs	0%

35. Diversity of staff

Percentage of faculty who are graduates	
of the same university	0%
from other universities within the State	0%
from universities from other States	25%
from universities outside the country	0%

36. number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: 1

37. present details of departmental infrastructural facilities with regard to

a) Library : Very good

b) Internet facilities for staff and students : Available for staffs and students

c) Total number of class rooms : 1

d) Class rooms with ICT facility : NA

e) Students' laboratories : 1

f) Research laboratories : --

38. List of doctoral, post-doctoral students and research associates

e) from other institutions/universities - 0

39. Number of post graduate students getting financial assistance from the university : 1

40. Was any need assessment exercise undertaken before the development of new programme(s)? if so, highlight the methodology

Recently the syllabus of various UG and PG programmes of the institute where revised for which a proper procedure of defining the content of the mathematical courses in this programme where decided taking inputs from the faculty of the parent department and feedback from the alumni.

41. Does the department obtain feedback from

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes. There is a feedback mechanism in place by which students record their feedback highlighting the requirements in improvement of the pedagogy techniques of the teachers and the relevance of the syllabus content for their final degrees. This helps in changing the teaching strategies by the individual faculty and helps in changes in syllabus or curriculam.

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Managed by the institute administration and the results are uploaded on the intranet. The faculties can see the results and incorporate the necessary changes suggested through the results of the feedback.

c. alumni and employers on the programmes offered and how does the department utilize the feedback?

The department gets in touch with the alumni for feedback.

42. List the distinguished alumni of the department - Nil

43. Give details of student enrichment programmes (special lectures/workshops/seminar) involving external experts.

MTTS Programme

PTMT Programme

Industrial Visits by the students

Workshop on SAGE and Python

44. List the teaching methods adopted by the faculty for different programmes.

Chalk and Board

Visual presentation

45. how does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Through regular internal evaluations by exams and seminar presentations.

46. highlight the participation of students and faculty in extension activities.

Resource person for various academic programs, for example: UGC Refresher course
National Workshops

Industrial visits

Workshop on CSIR-NET examination

47. Give details of "beyond syllabus scholarly activities" of the department.

Seminar presentations by M.Sc. students

Workshop on SAGE and different computer languages

Colloquium talks by eminent mathematicians including Padmashree Prof. M. S. Raghunathan.

48. State whether the programme/ department is accredited/ graded by other agencies? if yes, give details. - No

49. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Conducting educational workshops and lecture series

Initiating interdisciplinary research activities with other departments and other institutes/ universities

50. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Focused academic staffs

Strong research activities

Organizing educational workshops

Interactions with other mathematicians

Interdisciplinary research activities

Need to strengthen the department in number

Need to attract more PhD students

Strengthen the M.Sc program and develop new curricula

Popularize the M.Sc. program in India and abroad

51. Future plans of the department.

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

a) Offer courses and programmes that will ensure that the students get practical knowledge in mathematics which will be relevant to the society

b) Provide a modern educational environment for instruction and research

c) Create an environment for learner to engage in solving real-world problems

d) Contribute to the understanding of complex mathematical structures and their applications.

OILS, OLEOCHEMICALS AND SURFACTANT TECHNOLOGY DEPARTMENT

Oils, Oleochemicals and Surfactant Technology Department

This Department was started as Division of Oils, Fats and Waxes after WW-II i.e.in 1943 offering a 2-year course B.Sc. (Tech.) [Technology of Oils, Fats and Waxes] after B.Sc. (Chemistry). Professor J.G.Kane, whose work on non-traditional tree-borne oilseeds and oils was exceptional, was the founder Head. In 1998, this Division was renamed as Division of Oils, Oleochemicals and Surfactants. The undergraduate course was changed to a 4-year course, namely B. Chem. Tech. [Technology of Oils, Oleochemicals and Surfactants]. The Department also offers a Post Graduate and Doctoral Program. 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. The Department has done pioneering work in the field of Chemistry, Technology and Engineering of Edible/Non-edible Oils and Waxes, Tailor Made Fats and Nutraceuticals, Oleochemicals, Surfactants and Detergents, Biofuels, Lubricants and Greases, and Essential Oils, Perfumery Chemicals and Cosmetics. From the time of its inception, faculty members have maintained a close interaction with industry and have been associated with the development of the oil industry. Several short and long term projects instituted by sponsoring bodies for process/product development at this Department have been supervised by faculty as part of their routine research activity. Alumni of this Department have reached very senior and responsible positions in the Indian oil and surfactant industry.

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.

1) Year of Establishment: 1943

2) Is the department part of a school/faculty of the university? Y E S

3) Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.sc., D.Litt., etc.) :

a) B. Tech (Oils, Oleochemicals & Surfactant Technology)
b) M. Tech (Oils, Oleochemicals & Surfactant Technology)
c) Ph.D. (Oils, Oleochemicals & Surfactant Technology)

4) Interdisciplinary programmes and departments involved?

a) M. Tech. Green Technology — A) Ph.D. in Green Technology
b) M. Tech. Perfumery & Flavours Tech. — B) Ph.D. in Chemistry

c) M. Tech . Bioprocess Technology C) Ph.D. in Bioprocess Technology

5) Courses in collaboration with other universities, industries, foreign institutions, etc.

Yes (Godrej industries) : Godrej Research Lab

6) Details of programmes discontinued, if any, with reasons: NA

7) Examination system: annual/semester/trimester/choice Based credit system

Semester based evaluation pattern with CBCS

8) Participation of the department in the courses offered by other departments:

a) M. Tech. Green Technology b) M. Tech. Perfumery & Flavours Tech.
c) M. Tech. Bioprocess Technology

9) Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/asst. professors/others)

	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	2	01	01
Associate Professors	1	00	02 (CAS)
Asst. Professors	2 + 01*(J.G.Kane Endowment)	03	Assistant professor: 03

10) Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance :

Sr. No	Name		Highest Qualification	Date of joining present position	Date of joining institute	Specializations
Department of Oils, Oleochemicals and Surfactants Technology						
1.	Prof.R.D. Kulkarni	Professor & Head	Ph.D.(Tech)	04-11-2016	04-11-2016	Oleochemicals and Surfactants Technology
2.	Prof. P. R. Vavia	Professor & Head (upto 03-11-2016)	Ph.D. (Tech)	01-12-1993	07-01-1988	Pharmaceutical Technology
3.	Dr. J. T. Waghmare	Associate Professor	Ph.D. (Tech)	03-04-2016	03-04-2003	Oleochemicals and Surfactants Technology
4.	Dr. Amit P. Pratap	Associate Professor	Ph.D. (Tech)	29-12-2015	29-12-2003	Oleochemicals and Surfactants Technology
5.	Dr. C. S. Madankar	Assistant Professor	Ph. D. (Tech)	31-03-2015	31-03-2015	Oleochemicals and Surfactants Technology
6.	Dr. Parag Nemade	UGC Asst. Prof.	Ph.D. (Tech)	01-08-2013	01-Jan-11	Chemical Engineering
7.	Dr. D. V. Pinjari	DST INSPIRE Faculty Fellow	Ph.D. (Tech)	03-04-2013	03-04-2013	Chemical Engineering

11) List of senior Visiting fellows, adjunct faculty, emeritus professors :

Sr. No.	Name
1	Dr. A. T. Mirajkar
2	Dr. A. V. Joshi
3	Dr. Adinath Mahadeo Ware
4	Dr. B. P. Khedkar
5	Dr. D. K. Deshpande
6	Dr. Kishor Ambawade
7	Dr. Sanjog Surve
8	Dr. Sitaram Dixit
9	Dr. Smita Jadhav
10	Dr. Sushil Dubal
11	Mr. M. H. Navlur
12	Mr. Mangesh L. Mokashi
13	Mr. Vinay Kumar T. Singh
14	Mr. Vinay Kumar T. Singh
15	Mrs. Poonam Dhake
16	Prof. P. R. Kulkarni

12) Percentage of classes taken by temporary faculty – programme-wise information: 15-20%

13) Programme-wise student teacher ratio: 4:1

14) Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual:

Sr. No.	Post	Sanctioned	Filled
1	Junior Lab Analyst	1	1
2	Senior Technical Assistant	1	1
3	Lab Assistant	2	2
4.	Lab Attendance	3	3

15) Research thrust areas as recognized by major funding agencies:

a. High Performance Surfactants, Personal Care Products & Cosmetics

b. Lubricants & Functional Fluids c. Surfactant Mediated Nanopigments

d. Nutraceuticals ` e. UV Cure Polymers

f. Oleochemicals and its Derivatives g. Oil Based Polymers

h. Essential Oils, Perfumes & Fragrances i. Biofuels and Platform Chemicals

j. Blending Technology and Tailor Made Fats k. Biotechnology

16) Number of faculty with ongoing projects from a) national b) international funding agencies. give the names of the funding agencies, project title and grants received project-wise. :

Name of the Investigator	Title of the project and duration	Amount Sanctioned (INR)	Funding Agency
Dr.Amit Pratap	Pilot Study and Evaluation of Production of Green Surfactants from Non-edible/Edible Oils and Treated Oil Seed Meals Duration: 2016-19	2,78,45000	Rajeev Gandhi Science and Technology Commission
Dr. D. V. Pinjari	Development of nanocontainer for anticorrosive applications(2013-2018)	83,00,000	DST INSPIRE Scheme
	Development of Nanocontainers for Anticorrosive Applications and 5 Years Duration: 2013-2018	35,00,000	Department of Science and Technology, Government of India
	Development of Polymer Surfactants and 4 Years Duration: 2015 – 2019	20,00,000	Swagat Polymers, Aurangabad (India)
	Reverse Engineering of value added natural resins and 1 Year Duration: 2016 – 2017	11,45,000	Muraspec Distributors Pvt. Ltd. Mumbai (India)
	Purification Techniques for raw Emerald and Blue Sapphire and 1 Year Duration: 2016 – 2017	2,50,000	Jai Ambe Developers Mumbai (India)
	Development of Value Added Products from Plastic Pyrolysis Waste and 4 Year Duration: 2017 – 2021	27,60,000	Pyrocrat Systems LLP, Mumbai (India)
Prof. R. D. Kulkarni	Processing of Vegetable Oil Refinery and Oleochemical Waste Streams for regeneration of Value Added Nutraceuticals and Specialty Chemicals	21,18,528	DST-WMT, New Delhi
	Functional Coatings: Manufacture of Self-healing Coating	30,00,000	RUSA, Govt. of Maharashtra

Dr. P.R Nemade	Pre-Treatment of Biomethanated Distillery Waste by Catalytic Wet Air Oxidation (CWAO) to Enhance Further Biomethanation	21,00,000	Rajeev Gandhi Science and Technology Commission
	Development of biosensor for detection of pesticides	1,50,000	TEQIP Innovation Networking
	Development of inexpensive gas chromatograph	1,50,000	TEQIP Innovation Networking
	Hygienic Water-free Toilet	25,00,000	BIRAC-Bill and Melinda Gates Foundation, Grand Challenges India: Re-
	Development of Polymerizable Ionic Liquids for Gas Separations	23,00,000	SERB: Scheme for Young Scientists
	Arsenic Stabilization in Copper Smelter	9,77,000	Sterlite Industries India Ltd.
	Development of quality water resistant Gypsum plaster	21,26,000	RCF Ltd.
	Development of catalyst for conversion of methane to olefins	1,00,38,000	GAIL India Ltd.
	Hygienic Water free Toilets	21,45,000	BIRAC-Bill and Melinda Gates Foundation, Grand Challenges India: Re-invent The Toilet Challenge
Project Completed			
Prof. R. D. Kulkarni	Development of Nanohybrid Self-healing Coatings using ultrasound assisted encapsulation approach for anticorrosion performance	30,42,000	DRDO, NEW Delhi (Co-I, Collaborative Project with NIT, Warangal),

17) Inter-institutional Collaborative Projects and Associated Grants received –

a) National collaboration b) International collaboration

1. Palm Oil Research Council Malaysia
2. Palm Oil Research Board , Malaysia
3. Oil Technologist Association of India (OTAI) –(WZ).

18) Departmental Projects Funded by: DST; UGC, DBT , AICTE, ICT Golden Jubilee Endowment Fund, TEQIP-II.

19) Research facility / center with

State recognition
AICTE-MODROBS Applied
DST –FIST: Applied

20) Special research laboratories sponsored by / created by industry or corporate bodies:

Godrej Research Lab

21) Publications: (2012-17)

- **Number of papers published in peer Aunnexture-1 reviewed journals (national / international):** 144
- **Monographs:** NIL
- **Chapters in Books:** 05
- **Edited Books:** NIL
- **Books with ISBN with details of publishers**

Authors	Title	Editor/ Publisher / Place/ Year/ ISBN/ISSN
Dr. Jyotsna Waghmare	Skin barrier: Chemistry of skin delivery systems formulating strategies in cosmetic science	Ed: Johann Wiecher, Allured books, USA, 2008, ISBN 10: 1-932633-44-8 ISSN-13: 978-1-932633-44-3 Allured books, USA, 2009, ISBN: -10: 1-932633-529, ISBN-13: 978-1-932633-52-8
Prof. R. D. Kulkarni	SA Kapole, BA Bhanvase, RD Kulkarni, SH Sonawane, Synthesis of 2K Polyurethane Coating Containing Combination of Nano Bentonite Clay, Nano CaCO3, and Polyester Polyol and Its Performance Evaluation on ABS Substrate	“Chemical and Bioprocess Engineering: Trends and Developments" Apple Academic Press, ISBN 9781771880770, pp. 343-355. CRC Press: Taylor & Francis Group, April 1, 2015
Dr. P. R. Nemade	Utilization of Industrial Wastes as Building Materials,R. S. Zambare, A. Dahake, D. D. Sarode, P. R. Nemade, N. V. Mukadam	Int. J. Global. Tech. Initiatives 2(1) 2013 F12-17

Dr. D.V. Pinjari	D. V. Pinjari, P.R. Gogate, A.B. Pandit, Synthesis of Nanomaterials using Hydrodynamic Cavitation, Chapter in "Cavitation: A Novel Energy Efficient Technique for the Generation of Nanomaterials"	M. Sivakumar & M. Ashokkumar, Pan Stanford, Singapore, 2013 (ISBN-13: 978-9814411547).
	V. K. Saharan, D. V. Pinjari, P.R. Gogate, A.B. Pandit, Process Intensification using oxidation technologies at ambient conditions for wastewater treatment and recovery, Chapter in "Industrial Wastewater Treatment, Recycling and Reuse".	Vivek Ranade & Vinay Bhandari, Elsevier, UK, 2013 (In press).

Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) -144

- **Citation index – range / average:** 2099
- **SNIP:-**
- **SJR:-**
- **Impact factor – range / average:** 0.3- 5.385
- **H-index:** 4-22

22) Details of patents and income generated: NIL

23) Areas of consultancy and income generated: Rs. 225 lakhs

Name of the Investigator	Title of the project and duration	Amount sanctioned (INR)	Funding Agency
Dr. Joystna Waghmare	Study of lather of detergent formulation for laundry applications Duration: 2014-16	13,00,000	Hindustan Unilever Ltd
Dr. A.P. Pratap	Biofuel and Natural Wax Related Products Duration: 2017-21	31,39,000	M/s Bio Sols India Pvt. Ltd., Mumbai.
	Synthesis and applications of newer novel surfactants	23,54,000	M/s Ansika Polysurf Ltd. New Delhi

	Duration: 2017-20		
Dr. P. R. Nemade	Development of ethylene reactor (ongoing)	50,000	Chemtron Pvt. ltd
	Development of dehydration of alcohol (on going)	1,00,000	Mr. B. Chem Pvt. ltd
	High density Surfactant Formulation (ongoing)	1,00,000	Standard Surfactants
Dr. D. V. Pinjari	Development of Polymer (Silicon) Surfactants and 2 Years Duration: 2015 – 2017	5,00,000	Elkay Chemicals Pvt. Ltd., Pune (India)
	Techno-feasibility of Various Dairy Products and 1 Year	14,10,000	Coca Cola, Shanghai/Atlanta
	Duration: 2016 – 2017		
Prof. R. D. Kulkarni	High performance Nitrogen Derivatives	4,00,000	Godrej Industries, Mumbai (MS)
	MDS of Powder based additive for Oil and Gas Drilling Chemicals	2,50,000	Gumpro Drilling Fluids Pvt. Ltd., Raigad (MS)
	SUMWIN Global	11,00,000	SUMWIN Global Malaysia.

Completed Projects

Dr. Jyotsna Waghmare	Stabilization of omega-3 fatty acids in oil based products (Stabilization of omega-3 fatty acids in edible blends/ vanaspati/ margarine/ shortening or butter like products using natural anti-oxidants	15,00,000/-	Department of Food and Public Distribution, Govt. of India, New Delhi
	Duration: 2012-15		
	Essential oils from Champa	2,50,000/-	Pitambari Products Pvt Ltd., Navi Mumbai
	Duration: 2014-15		
	Alternative Fuels	12,00,000/-	Department of Science and Technology (DST)
	Duration: 2013-16 (Completed)		
Dr. A. P. Pratap	Value Addition to Biodiesel via Bio lubricants	40,33,000/-	Department of Science and Technology (DST), New

			Delhi
Dr. P. R. Nemade	Development of biosensor for detection of pesticides Duration: March 2017	1,50,000	TEQIP Innovation Networking
	Development of inexpensive gas chromatograph Duration: March 2017	1,50,000	TEQIP Innovation Networking
	Hygienic Water-free Toilet March 2017	25,00,000	BIRAC-Bill and Melinda Gates Foundation, Grand Challenges India: Re-invent The Toilet Challenge
	Development of Polymerizable Ionic Liquids for Gas Separations	23,00,000	SERB: Scheme for Young Scientists
	Arsenic Stabilization in Copper Smelter Sludges	9,77,000	Sterlite Industries India Ltd.
	Development of Quality Water Resistant Gypsum Plaster	21,26,000	Rashtriya Chemicals and Fertilizers Ltd.
	Development of catalyst for conversion of methane to olefins	1,00,38,000	GAIL (India) Ltd.
Dr. D. V. Pinjari	Micro Hydro Electricity Production: Electricity Generation for Lighting and Irrigation using the natural flow of irrigation Canal and its Performance Evaluation and 1 Year Duration: 2016 – 2017	7,00,000	TEQIP Grant (A World bank Project Initiative)
Prof. R. D. Kulkarni	Development of Nanohybrid Self-healing Coatings using ultrasound assisted encapsulation approach for anticorrosion performance 2014 (Completed)	30,42,000	DRDO, NEW Delhi (Co-I, Collaborative Project with NIT, Warangal),

24) Faculty selected nationally / internationally to visit other laboratories/institutions/industries in india and abroad:

1) Dr. P.R.Nemade,
2) Dr. D.V. Pinjari

25) Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Sr.No	Faculty Member	Affiliation to Professional Bodies
1	Prof. R. D. Kulkarni	Oil Technologists' Association of India
		Indian Society for Technical Education (LM)
		Asian Polymer Association
2	Prof. P. R.Vavia	Life member, Indian Pharmaceutical
		Member, Association of Pharmacy Teachers of
		Member, Pharmaceutical Society of Great Britan
		Inspector appointed by Pharmacy Council of India for inspection of Institutions
		Member, Editorial board of Indian Journal of Pharmaceutical Sciences
		Expert Member, DSIR for inspection of Industrial R & D Facility
		Member, International Advisory board Asia Oceanic Cyclodextrin League
		Member, Italian Cyclodextrin League
3	Dr. Amit P. Pratap	Oil Technologists' Association of India
		Alumni Association of UDCT
		Indian Society for Surface Science and Technology (ISSST)
		Indian Association Nuclear Chemists' and Scientists
		Chromatographic Society of India
4	Dr. Jyotsna Waghmare	Oil Technologists' Association of India
		Association of Food Scientists and Technologists
		Indian Society for Surface Science and Technology (ISSST)
5	Dr. D. V. Pinjari	Fulbright Alumni Advisory committee at Fulbright – Georgia Tech Alumni chapter (USA)
		UDCT Alumni Association
6	Dr. P. R. Nemade	DAE Young Scientist Award, 2013 (by BRNS, Dept. of Atomic Energy)
		Chevening-Rolls Royce Science, Innovation and Leadership Fellowship

26) Faculty recharging strategies (UGC, ASC, refresher / orientation programs, workshops, training programs and similar programs).

a) Teaching Learning Workshop – Convenor – Prof. S. D. Samant , March 2014

b) Resource Generation Workshop organized by HBCSE in September 2013

c) Capacity Building Training Workshop through TEQIP Workshop on NBA accreditation, VJTI, Mumbai

27) Student projects

- **Percentage of students who have done in-house projects including inter- departmental projects:** B. Tech: 100 % , M. Tech: 50%
- **Percentage of students doing projects in collaboration with other universities/industry/ Institute:** M. Tech: 50%

28) Awards / recognitions received at the national and international level by

- **Faculty**

Name of Faculty	Major Awards
Prof. R. D. Kulkarni	Received 'Best Teacher Award' from NMU, Jalgaon
	Member- Executive Council and Member-Court, Jawaharlal Nehru University, New Delhi (March 2016 to Feb 2019)
Prof. P. R. Vavia	Best Teacher's Award, University Institute of Chemical Technology at undergraduate level, 2010.
	Best Teacher's Award, Institute of Chemical Technology at undergraduate level, 2012.
	Best Teacher's Award, Institute of Chemical Technology at undergraduate level, 2014
	Prof. P. R. Vavia awarded 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. C.S. Madankar	S.R. Bhatnagar Memorial Research award, 2013 by the Oil Technologist Association of India for the research work carried out in the field of lubricants, petrochemicals and allied products.
Dr. P. R. Nemade	DAE-Young Scientist Research Award
	BIRAC and Bill and Melinda Gates Foundation's Re-Invent The Toilet Challenge

Dr. Amit P. Pratap	Dr. Amit P. Pratap "RBGV Swaika Memorial Award" during the 68th Annual Convention of Oil Technologists" Association of India and International Conference on Emerging Trends in Oleochemicals and Lipids Expo-2013 national August 8-10, 2013 at CSIR-Indian Institute of Chemical Technology, Hyderabad
	Prof. R K Khanna Memorial Award" for the best research paper entitled "Effect of Glycerol and Soybean Oil as a Carbon Source on the Production of Mannosylerythritol Lipids by Pseudozyma antarctica (ATCC 32657)" published in Journal of Lipid Science and Technology (JLST), Vol. 43 No. 1, Jan-Mar 2011, 16-19.
	Prahraj Manoj Memorial Award" for securing First Rank from all the branches of M. Sc. (Tech), Semester I and Semester II examinations held in May 2000.
	National Open Merit Scholarship" for the academic year 1996 – 97 and 97 – 98 for securing Second Rank in the Merit List at B. Sc. (Chemistry) examination held in April 1996.
	Selected as „Junior Research Fellow" under the scheme entitled Processing and Utilization of Gamma Irradiated Oilseeds" sponsored by Board of research in Nuclear Sciences (BRNS), Mumbai
Dr. D. V. Pinjari	Fulbright OLF Award 2015 by OIE and CIES (State Departments, US Federal Government, Washington, USA)
	Young Engineers Award 2014-2015 by The Institution of Engineers (India)
	Wipro Earthian Award 2013 by Wipro foundation, Banglore (India)
	Young Associate, Maharashtra Academy of Science (2013)
	M. P. Chary Memorial Award 2013 for research and technological contribution (below 35 years). The M P Chary Memorial Award was constituted by Indian Institute of Chemical Engineers (IIChE), India
	Dr. K. H. Gharda Best PhD Thesis Award 2013 Ambuja Cement Best Thesis award
	Department of Science and Technology Inspire Faculty Award 2013-2018
	University Grant Commission, Government of India D S Kothari Postdoctoral

- **Doctoral /Post Fellows:** 04
- **Students: B. Tech:** 09
  M. Tech: 02

29) Seminars/ Conferences/Workshops organized and the source of funding (National / International) with details of outstanding participants, if any.)

Sr..No.	Title	Date	Venue	Funding Source
1	ISDC-2011 International exhibition On Soaps, Detergents and Cosmetics	10th to 13th December-2011	Nehru Centre Worli,Mumbai-400 018	Sponsored Funding And Registration Fee
2	67th Annual Convention of The Oil Technologists' Association of India and International Conference and Expo-2012	23rd and 24th November-2012	ITC Maratha, Sahar Road, Mumbai – 400 099	Sponsored Funding And Registration Fee
3	3 Days Workshop "Latest Trends In Instrumental Analysis Of Oils, Oleo-Chemicals, Surfactants And Allied Products"	24th-26th October-2013	Institute of chemical Technology, Mumbai	Sponsored Funding And Registration Fee
4	One day conference on Current regulatory requirements of cosmetics	7th March 2014	Courtyard Marriot, Andheri, Mumbai.	Sponsored Funding And Registration Fee
5	One day seminar on "Transformative Technologies and Market Innovations in HPC industry"	13th-14th January 2016	Nehru centre, Worli, Mumbai-400018	Sponsored Funding And Registration Fee
6	One day workshop on "Risks Mitigation in the Personal Care Industry"	15th January 2016	Nehru centre, Worli, Mumbai-400018	Sponsored Funding And Registration Fee
7	Innovative trends in Oleochemicals, Surfactants and personal care products	06th March 2017	Institute of chemical Technology, Mumbai	Dept. of Oils, Olechemicals, and surfactant technology Matunga Mumbai
8	Certificate Refresher course on Oleochemicals; Basic Chemistry, Derivatives & Applications	16&17 March 2017	Institute of chemical Technology, Mumbai	Dept. of Oils, Olechemicals, and surfactant technology Mumbai and OTAI

9	International Conference in India Across food value chain challenges and future road map	30 & 31 October 2017	Delhi	OTAI

30) Code of ethics for research followed by the departments

The Institute has a set Code of Conduct for research and the Department follows the same.

31) Student profile Programme-wise

Name of the Programme (Refer to Question No.4)	Centralized Admission	Selected (2016-17)		Pass Percentage	
		Male	Female	Male	Female
B. Tech. (16 Seats)	14	12	02	100	100
M. Tech. (Full time 2 years 18 seats)	15	07	08	100	100
Ph.D. (Tech. & Sci.)	27	16	11	100	100

32) Diversity of Students:

Name of the Programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Bachelor of Technology (16)	100	0	0	0
M. Tech. (Full-time 2-years) (18)	30	65	5	
Ph.D. (Tech.) in Technology	50	50	0	0

33) How many students have cleared civil services and defense services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Name of Examination	Number of Students Cleared
Number of students who passed GATE examination	19
Number of students who passed CSIR	2
Number of students who passed other competitive examination	4

34) Student Progression:

Student progression	Percentage against enrolled
UG to PG	
	25
PG to M.Phil.	
	-
PG to Ph.D.	5-10%
Ph.D. to Post-Doctoral	-
Employed	-
Campus selection	60%
Other than campus recruitment	20%
Entrepreneurs	-

35) Diversity of Staff

Percentage of faculty Who Are graduates	
of the same university	50
from other universities within the State	16.5
from universities from other States	16.5
from universities outside the country	16.5

36) Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: NIL

37) Present details of departmental infrastructural facilities with regard to

a) Library : Yes

b) Internet facilities for staff and students: Yes

c) Total number of class rooms (in Oils Department):2

d) Class rooms with ICT facility: - Yes

e) Students' laboratories (BE): 2

f) Research laboratories: 4

38) list of doctoral, post-doctoral students and research associates

a) From the host institution/university: 07

b) from other institutions/universities: 21

39) Number of post graduate students getting financial assistance from the university:

TEQIP-II

40) Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes. The Departmental committee made several deliberations. Experts from within the Institute and from other reputed Institutes were consulted. A syllabus committee comprising of faculty members of the Department and external experts was constituted to frame the syllabus.

41) Does the department obtain feedback from

i) Faculty on curriculum as well as teaching-learning-evaluation? if yes, how does the department utilize the feedback?

Yes. The feedback from the faculty members is taken by the Head of the Department and discussed in the Department meetings. Suitable changes are made in the teaching and evaluation accordingly.

ii) Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

Yes, the Head of the Department takes feedback from the MSc students at the end of each semester. Besides this, some of the faculty members also obatin feedback from the students for their individual courses.

iii) Alumni and employers on the programmes offered and how does the department utilize the feedback?

Yes, The Head of the Department and the faculty members have constant interaction with the alumni and their feedback is taken into account.

42) List the distinguished alumni of the department (maximum 10).

Sr.No.	Alumni	Designation
1	Dr. Rajeev Churi	Managing Director, Sarbi Group of Companies
2	Mr. P. D. Kamat	Managing Director, Fine Organics
3	Mr. K. G. Satoskar	Managing Director, Arofine Chemicals Ltd.
4	Dr. Suresh Ramamurthi	Vice President, New Business Development, ITC, Bangalore
5	Dr. B. R. Gaikwad	President – Special Projects, VVF Ltd., Mumbai
6	K. N. Kapadia	CEO, Desmet Ballestra, Bangalore
7	Dr. A. T. Mirajkar	Vice President, Unitop Chemicals Pvt. Ltd., Mumbai
8	Mr. Nitin Nabar	Chief Operating Officer (COO), Godrej Industries Ltd., Mumbai
9	Dr. S. Y. Mhaskar	Head-Technology, Marico Ltd.
10	Dr. Prasad Nabar	Vice President, Fine Organics Ltd., Mumbai

43) Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts

- **endowment lectures (annually)**

  Spinco Biotech Ramanathan lectures

  G. D. Gokhale Endowmen lectures

  Golden Jubilee Endowment lectures

  CMP Endowment lectures

  B. D. Tilak Visiting Fellowship

  Dai-ichi Karkaria Visiting Fellowship

Dharamsi Morarji Visiting Fellowship

- **Laboratory Safety Workshop**

44) List the teaching methods adopted by the faculty for different programmes.

- Use of multimedia
- Self learning through assignments and seminars
- Innovative teaching methods such as POGIL – Process Oriented Guided Inquiry Learning

45) How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

1. We have a system of continuous assessment under which a series of tests, assignments, quizzes are arranged throughout the semester to monitor the progress of our students and teaching. There is also one formal mid-semester examination. The weightage of continuous assessment in the total marks is 20%, while that of the mid-semester exam is 30% and the end semester exam is 50%.
2. We ensure advice from external experts by appointing them as visiting faculty.
3. We regularly organize endowment lectures and lectures by experts
4. Students are encouraged to participate in co-curricular activities within and outside the institute
5. Activities like Rasaynam and CONTECH are organized to boost student involvement

46) Highlight the participation of students and faculty in extension activities:

a) Students of oil technology actively participate in VORTEX – a technical festival organized by ICT. They also take part in other inter-college events and competitions.

b) Some of the events such as are also arranged with the collaborative efforts of students and staff members of this department

47) Give details of "beyond syllabus scholarly activities" of the department

The faculty members of the Department are actively involved in various research activities like guiding Ph.D. students, industrial consultancy, executing sponsored projects and writing books and research papers. In addition, they contribute to the activities of other Departments/ Universities as members of Ph.D. thesis evaluation and syllabus review committees. Most of the faculty members of the Department have delivered invited lectures in conferences/seminars/ workshops. They are regular resource persons for refresher courses conducted for college teachers.

48) State whether the programme / department is accredited/ graded by other agencies? if yes, give details.

Yes. NBA Accreditation has been received.
File No. 28-301-2010-NBA dated 21/10/2015
NBA-2016 for B. Tech.

49) Briefly highlight the contributions of the department in generating new knowledge basic Or applied.

The basic and applied knowledge generated through research activities is regularly published as journal articles, reviews and books. Some of the research outcome has also been patented. In addition, the members of the Department carry out industrial consultancy where they apply the knowledge to solve the real world problems faced by the industry.

50) Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department Strengths:

- Substantial academic contribution by the Department towards conducting theory as well as practical courses for the under-graduate Programmes of all the three branches, viz., B. Chem. Engg., B. Tech., and B. Pharm. Sci.
- High diversity among the present faculty members regard to research interests and area of expertise.
- Numerous analytical facilities for common use such as Infrared and UV Vis spectrophotometers, Gas chromatographs, High Performance Liquid Chromatograph unit, Viscometer, ovens and

Weaknesses:

- Few faculty positions are vacant for a long time.
- The laboratories are not fully modernized and a thorough revamping is essential.
- Secretarial assistance is not available. As a result, the faculty members spend lot of time on administrative and documentation work.

Opportunities:

- The Department gets a good number of applications for Ph.D. admission. Thus, there is no dearth of research manpower and new research areas can be initiated and sustained.
- The vacant faculty positions can be filled with scientists/adjunct faculty on suitable terms and conditions.
- A network can be made of the research students who had passed out of the Department who are placed in various research/academic organizations. This will help in conducting research of academic, industrial and social relevance.
- The Department has the opportunity to identify promising under-graduate students and hence can carry out minor, exploratory research projects through them. This can be a co-curricular activity which will also help the under-graduate students in getting a good placement or scholarship.
- The Department can increase the intake of each. Programme. In future, integrated programmes can be initiated.
- UGC SAP and DST FIST sponsored research funding for the next five years.

51) Future plans of the Department Research Plan:

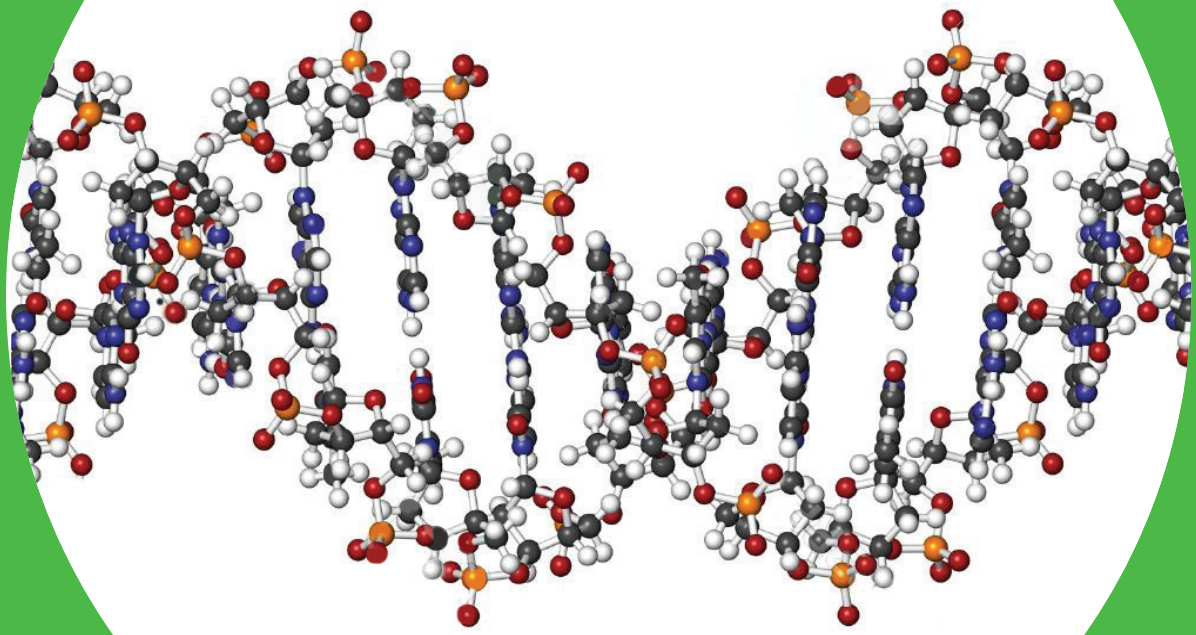
- To expand the current research expertise by incorporating expertise from various contemporary areas of research such as nanoscience, bioorganic chemistry, materials chemistry, computational chemistry, theoretical chemistry
- To develop research facilities to meet international standards with respect to analytical facilities, lab facilities, etc
- To enrol quality students for PhD and train them rigorously through course work and research
- To undertake research problems of industrial relevance
- To introduce, develop and nurture the culture of commercialization of research and documenting the work as patents

Academic Plan:

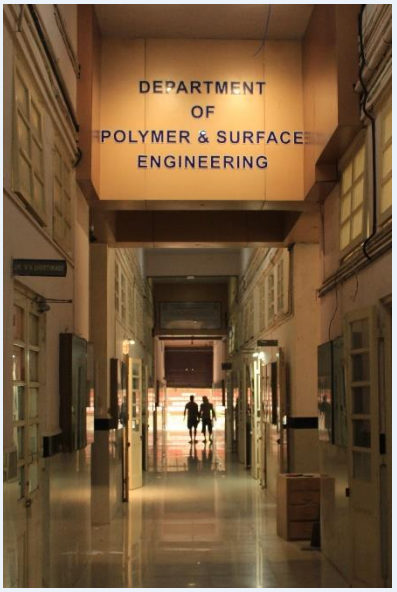
- Develop the current M.Tech programme further in terms of quality and make it on par with the international standards.
- Launching of new M. Tech. Programme in Tribology.
- Provide the students excellent laboratory, computational, research and instrumental facilities
- Make online resources available to the students
- Collaborate with reputed Universities and institutions to improve the academic standards
- Provide opportunities to the students to work in reputed institutes as interns

Notes :

POLYMER & SURFACE ENGINEERING DEPARTMENT



Polymer & Surface Engineering Department



During the inception, year 1946, this division offered a B.Sc (Tech) course for two years in Technology of Plastics and Technology of Paints, Pigments and Varnishes. In1952, along with other divisions three years B.Sc (Tech) program was introduced. From 1998, the three year B. Sc (Tech) course has been replaced by four year post H.S.C course. The intake strength was only four students per year in Polymer and surface engineering Technology branches. Later on, the strength was increased to 8 per year and now it is 16 per year in each of these two technology courses. In addition to under graduate program, the department has Master's and Doctoral Programs also. The department received a grand donation of Plastindia Foundation, Mumbai in 1997 to initiate the new program – three semesters M. Sc (Tech) in Plastics Processing. In the year 1999, the department received donation of modern equipments worth USD 100,000 from Gratag Macbeth of USA in association with Advanced Graphics Systems, India.

The department has received funds under FIST and DRS schemes. The department has fully refurbished laboratory and equipped with all state of the art instrument. The department the placement recorded for UG and PG are excellent and large numbers of students going for higher studies. The faculty members are having excellent interactions with industries and are involved in consultations and members of varies committees.

Department work in the areas like Polymer Blends and Synthesis of Tailor-made Polymers by Living Radical Polymerization, Polyurethane Dispersion, Anticorrosive Coatings, Nano-Particle Synthesis, Particulate Polymer Composites, Bio-nanocomposites, Biodegradable Polymers and Composites, Speciality Coatings, Nanocomposites, Biopolymer, Rheology of Polymers etc

The department has very good testing facility to carry out research work. Major characterization equipments includes XRD, Leica Microscope, DSC, TGA, FTIR, Nano particle size analyzer, Contact Angle measuring system, Zeta Potential meter, HPLC, Computer Colour Matching system, Tensile strength tester, BOD and COD analyser, Rheometer HDT/ Vicat Apparatus Optical Instruments Spectrophotometer Color Eye 7000 A Spectralight III XRD Water vapor and Gas vapor Permeability Surface Tension meter DMA etc Department also have Polymer processing Equipment like Single screw extruder Twin screw extruder Two roll mill Injection molding machine Blown film extruder and many other small testing analytical and processing instruments.

There are total 6 faculty members who engaged in high quality fundamental as well as applied research and they have got over 500 publications in Indian and International journals. The number of publication over the last three years (2012-15) is 150. There are 9 permanent and 4 temporary non-teaching staff members in the dept. Department has 9 laboratories occupying 500 sq. m. floor area and 450 sq m classroom and seating area.

The faculty of the Department has good interaction with the industry. 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. Department faculty has

govt. projects from UGC,DST, AICTE and TEQIP in the last three years amounting to Rs. 300 lakhs in the last three years. They also have project work from the industry like Tata motors Supreme Petrochem of value over Rs 30 lakhs.

About 50% of the under graduate and post graduate student go abroad for higher studies. Some of the institutes where the student's gets admissions are Akron, Texas, Colorado, Cornell, Carnegie Mellon University, Jeorgia Institute of Technology in the USA etc .We achieve 100% campus placement for UG and 80% for PG students. The companies that visit for campus interview are Asian Paints, DSM, Welspun, Saint Gobain, Hindustan Speciality Chemicals, Pidilite, Kansai Nerorac K Tech Dow Chemicals and many others. Salaries offered are in the range of 5 lakhs per annum.

Departmental Students also organize technical event every year called "Rangotsav" where paper presentation, quizes and other events are held in the dept in which students from all over India participate and competes. Annual get together for alumni is also planned which is a cultural event. Department have 7 endowment where in people from industry share their experience with the students.Renowned Alumni of the Department Mr. A.S. Dani Mr. H.K. Momaya Mr. M.C. Choksi Mr. Ravi Raghavan Mr. S.C. Jain Mr. B.M. Thakkar and many more.

Our vision is Empowering skills and knowledge about latest Research in the field of Polymer and Surface Coating Technologies. And mission is to pursue world class on excellence in education and research in the areas of Polymer and Coating Technology for sustainable development of industries that require trouble shooting competencies in these core areas of knowledge

Advances in Polymer & Coating – Rangotsav 2017

Chief Guest Dr. Shreekant Diwan

Inauguration

Technical Session I

Technical Session II

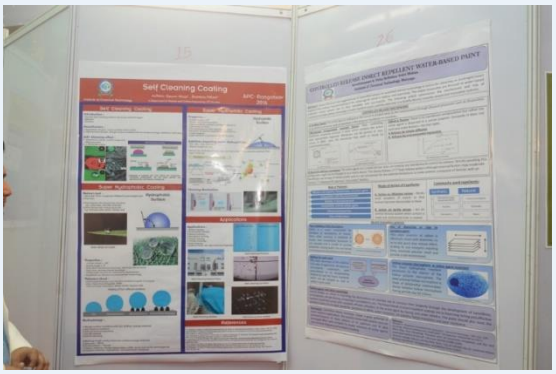
IDP Gudge Prof. M. A. Shenoy

Organizing Committee

Advances Manufacturing Technologies & New Material

ICT-CIPET Workshop – 2016

Advances in Polymer & Coating – Rangotsav 2016



1. Year of establishment :

The department of Polymer and Surface Engineeringwas established in 1946 and has undergone

changes in its nomenclature. Earlier it was known as Paints, Pigments and Varnishes (PPV) Section.

The B.Sc. (Tech.) courses were converted into post-B.Sc. three-year courses in 1966 and finally further converted into B. Tech. programmes in 1988, which are post-HSSC (12th Grade).

Since 1961 the Department started M.Sc.(Tech.) in Chemical Technology which is currently M.(Tech.) in polymer engineering as well as Surface Coatings Technology.

2. Is the Department part of a School/Faculty of the university?

Deemed University under section-3 of UGC Act-1956 with Maharashtra Govt.'s Elite Status and Center of excellence, Matunga, Mumbai-400 019

3. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.)

- B.Tech (Polymer Engineering and Technology, Surface Coating Technology)
- M.Tech (Polymer Engineering and Technology, Surface Coating Technology)
- Ph.D (Polymer Engineering and Technology, Surface Coating Technology)
- Integrated Masters in (Polymer Engineering and Technology, Surface Coating Technology)
- Integrated Ph.D in (Polymer Engineering and Technology, Surface Coating Technology)
- Ph. D. (Science) in Chemistry
- Ph. D. (Science) in Green Technology

4. Interdisciplinary programmes and departments involved

- Department of Mathematics
- Department of Physics
- Department of General Engineering
- Department of Chemical Engineering
- Department of Chemistry

5. Courses in collaboration with other universities, industries, foreign institutions, etc.
Nil

6. Details of programmes discontinued, if any, with reasons
Nil

7. Examination System: Annual/Semester/Trimester/Choice Based Credit System

	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,
Practical	50%	-	50%	Attendance, *viva -voce*, journal, assignments, project, experiments, tests

Grades:

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 some-times the absolute) performance of the student. For granting class a grade point of 6.0 and above will be considered equivalent to First class.

Letter Grade	AA	AB	BB	BC	CC	CD	DD	EE
Grade Point	10	9	8	7	6.5	6	5.5	5

Repeat End-Semester Examination

For those candidates who fail in a subject head or are eligible for appearing at the repeat examination, **Repeat End-Semester Examination** is conducted within one month from the declaration of the results of regular end-semester examination. The marks obtained by candidates in the in-semester examinations (continuous assessment and periodic test) will be carried forward in such cases.

Improvement of performance:

A candidate will be allowed to appear for the **entire examination** after the regular end-semester Examination as per the respective rules to improve the performance.

8. Participation of the department in the courses offered by other departments

Nil

9. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

	Sanctioned	Filled	Actual (including CAS & MPS)
Professors	2	0	2
Associate Professors	3	2	-
Asst. Professors	3	3	-
Others (Endowment one for associate Prof.)	1	1	-

10. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Phil. students guided for the last 4 years
Prof. R.N.Jagtap	Ph.D. Tech	Professor	Paint Technology	24	10
Prof. P. A. Mahanwar	Ph.D. Tech	Professor	Polymer Science and Technology	26	16
Dr. V. V. Shertukade	Ph.D. Tech	Associate Professor	Polymer Science and Technology	22	2
Dr. A. S. Sabnis	Ph.D. Tech	Assistant Professor	Paint Technology	9+ 2.5*	2
Dr. S. T. Mhaske	Ph. D Tech	Assistant Professor	Paints &Polymer Science & Technology	14	5
Mr. A. R. Rao	M. Tech	Assistant Professor	Polymer Science and Technology	14+2*	0

*: industry experience

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors

1. Prof. M. A. Shenoy
2. Prof. M. R. Sawant
3. Dr. Samui
4. Dr. Milind Deshpande
5. Dr. M.Tipana
6. Mr. S.P.Joshi
7. Mr. Mahesh Aaradhe

12. Percentage of classes taken by temporary faculty – programme-wise information

No temporary faculties

13. Programme-wise Student Teacher Ratio

Sr.No	Class	Students (considering ongoing courses for SY TY and final year of polymer as well as coating technology)	Teacher
1	B-Tech	96	8
2	M-Tech	70	6
3	Ph.D	2-3 (average)	5

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

No	Support staff (technical)	Actual	Sanctioned	Filled
1	Lab Assistant	3	3	3
2	Laboratory Technician	1	1	--
3	Instrument Mechanics	1	1	1
4	Laboratory Attendant	5	5	5

15. Research thrust areas as recognized by major funding agencies

- Nanotechnology
- Green routes for polymer synthesis
- Polymer processing.

16. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

1	**Sponsor**	Ministry of Textile- BlueTex Pvt. Ltd.
	Title	Bio based coating for textile application
	Duration	2 yrs
	Total amount	Rs.34 lakhs
	Principal Investigator	Professor R. N. Jagtap
	Research Fellow	Ambadas Garje
	Sponsor	Pidilite Industries

2	**Title**	Pickring emulsions for adhesive application
	Duration	5 yrs
	Total amount	Rs.20 lakhs
	Principal Investigator	Professor R. N. Jagtap
	Research Fellow	Rajesh Prabhu
3	**Sponsor**	Evonik Industries
	Title	Placing Functionality to coatings
	Duration	4 Year
	Total amount	Rs. 17 lakhs
	Principle Investigator	Professor R. N. Jagtap
	Research Fellow	Pratiket Bamane
4	**Sponsor**	BRNS
	Title	High energy radiation assisted depolymerization of polyethylene terephthalate for coating applications
	Duration	3 years (2012-2015)
	Total amount	21,00,000/-
	Principal Investigator	Dr. Anagha Sabnis
	Research Fellows	Vandana Jamdar (Ph.D. Tech)
5	**Sponsor**	Indian Council of Agricultural Research (ICAR),Govt. of India
	Title	Feasibility of PTA substituting IPA to the extent possible in the manufacturing of lamination adhesive
	Duration	6 months
	Total amount	Rs 14.00/- Lakhs
	Principal Investigator	Professor R. N. Jagtap
	Sponsor	Board of Research in Nuclear sciences (BRNS), DAE, Govt. of India

6	**Title**	Development of volatile organic compound (VOC) free radiation indicator labels along with prototype product manufacturing
	Duration	3 years (March 2012 to 2015)
	Total amount	Rs 24.50/- Lakhs
	Principal Investigator	Dr. Shashank T. Mhaske
7	**Sponsor**	DST- TIFAC New Delhi (2011-15)
	Title	Survey of Medium, small and micro Enterprenurs in Plastics at Dharavi Cluster, Mumbai
	Duration	4 Year
	Total amount	Rs. 21,50,000:00
	Principle Investigator	Prof. P. A. Mahanwar
8	**Sponsor**	AICTE New Delhi(2013-16)
	Title	Development of Conducting Polymer nanofibers by Electrospinnig and Polymer Nano fiber composites for Fuel Cells
	Duration	3 Year
	Total amount	Rs. 9,90,000:00
	Principle Investigator	Prof. P. A. Mahanwar
9	**Sponsor**	BRNS(2014-17)
	Title	Development of Heat Shrinkable cable and sheets for electrical and electronic application
	Duration	3 Year
	Total amount	Rs. 35, 00, 000
	Principle Investigator	Prof. P. A. Mahanwar
	Sponsor	DST/FIST(2007-11)

10	**Title**	Infrastructure Development at department of Polymer and Surface Engineering
	Duration	3 Year
	Total amount	Rs. 45,00,000
	Principle Investigator	Prof. P. A. Mahanwar
11	**Sponsor**	DST/FIST(2013-15)
	Title	Infrastructure Development at department of Polymer and Surface Engineering
	Duration	2 Year
	Total amount	Rs. 1, 25,00,000
	Principle Investigator	Prof. P. A. Mahanwar
12	**Sponsor**	RGST(2015-2018)
	Title	Development of Controlled Release formulations of Agrochemicals
	Duration	3 Year
	Total amount	Rs. 53,00,000
	Principle Investigator	Prof. P. A. Mahanwar
13	**Sponsor**	Reliance Industries Ltd
	Title	Shortcut PET fibres in high performance Coating
	Duration	6 month
	Total amount	11 lakhs
14	**Sponsor**	Colors
	Title	Novel resins for uv radiation curing
	Duration	4 year
	Total amount	20 lakh

15	**Sponsor**	M/S Shah Petroleum Ltd.
	Title	Development of green plasticizer as replacement to phthalate base plasticizer
	Duration	4 year
	Total amount	48 lakh
16	**Sponsor**	DRDO
	Title	Development of Phase Change Polymers as Maitainance Free Thermal Energy Storage Material
	Duration	3 year
	Total amount	22.22 lakh
17	**Sponsor**	SDKDCH, Nagpur
	Title	Development of Mineral Trioxide Aggregates
	Duration	3 year
	Total amount	19.5 lakh
18	**Sponsor**	Unilever Industries Limited
	Title	Biopolymers for Responsible Growth
	Duration	1 year
	Total amount	13.6 lakh
19	**Sponsor**	Evonik India Ltd.
	Title	Responsive Polymer Based Intelligent Devices
	Duration	3 year
	Total amount	22 lakh
20	**Sponsor**	DBT-ICT Centre for Energy Biosciences (DBT-ICT-CEB)
	Title	Integrated biorefinery for production of sorghum seed protein

	Duration	3 year
	Total amount	1.13 Cr
21	**Sponsor**	Unilever Industries Limited
	Title	Shape selective isolation and surface modification of nanocellulose
	Duration	3 year
	Total amount	36.25 Lakh
22	**Sponsor**	Department of Science & Technology DST (MoFPI)
	Title	Synthesis and characterization of nano-cellulose and its application in biodegradable polymer composite films for food packaging
	Duration	4 year
	Total amount	32.73 lakh

17. Inter-institutional collaborative projects and associated grants received

a) National collaboration b) International collaboration

Nil

18. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

Please refer to point 17

19. Research facility / centre with

- State recognition
- National recognition
- International recognition

20. Special research laboratories sponsored by / created by industry or corporate bodies

Undergraduate and Research laboratory–sponsored by Sauradip chemical industries PVT LTD –inaugurated by Dr. Kishore M. Shah dated at 16th Dec'16

21. Publications:

	Prof. R. N. Jagtap	Prof. P. A. Mahanwar	Dr. V. V. Shertukade	Dr. A. S. Sabnis	Dr. S. T. Mhaske	Mr. A. R. Rao
Number of papers published in peer reviewed journals (national / international)	30	41	5	36	66	-
Monographs: Chapters in Books: Edited Books:	-	-		-		-
Citation Index	326	659		111	960	-
Impact Factor	1.2-3.5	0.26-2.7		1.2-3.8	0.253-3.91	-
h Index	10	14		6	15	-

22. Details of patents and income generated:

No.	Inventors	Title	Country	Funding Agency
1.	Mhaske Shashank Tejrao Kadam Pravin Gopal Kelkar Sunder Tukaram Savvashe Prashant Bhairavnath	Microwave synthesis of polyamide hot melt adhesive. **Patent No** : 3305/MUM/2014	India	POLYFIBRE LIMITED.
2.	Mhaske Shashank Tejrao Kadam Pravin Gopal Vaidya Parth Nitin Savvashe Prashant Bhairavnath	Novel poly(ester-amide) hot melt adhesive using castor oil. **Patent No** : 128/MUM/2015	India	POLYFIBRE LIMITED.

3.	Mhaske Shashank Tejrao Kadam Pravin Gopal Vaidya Parth Nitin Savvashe Prashant Bhairavnath	Novel poly(ester-amide) hot melt adhesive using ricinoleic acid. **Patent No** : 127/MUM/2015	India	POLYFIBRE LIMITED.
4.	Mahanwar Prakash Anna Praharaj Bhatnagar Manoj	Centrifugal and Electrocentrifugal Spinning Machine for Synthesis of Micro and Nano Fibers from Polymer Melts & Solutions **Patent No : 3395 / MUM / 2015**	India	No
5	Mahanwar Prakash Anna Bambole Vaishali Abhay	Synthesis of Polyether Sulfone and Mixture of SiO2 and Al2O3 Nanocomposites" **Indian - 95 / MUM / 2014**	India	No
6	Mahanwar Prakash Anna Bambole Vaishali Abhay	Synthesis of Polyether ether ketone Carbon Nano Platelets Composites", **Indian – 96 / MUM / 2014**	India	No
7	**Mahanwar Prakash Anna** Sawant Manohar Ramchandra	Microcapsule and Process for Production Thereof **Indian – 2712 / MUM / 2014**	India	No
8	**Mahanwar Prakash Anna** Bambole Vaishali Abhay	Nanocomposites Carbon & Nano – plated Chain with Polyetheretherketone (PEEK) **Indian – 629 / MUM / 2012**	India	No
9	**Mahanwar Prakash Anna** Bambole Vaishali Abhay	Nanotube Polymer Composition" **Indian – 1110 / MUM / 2012**	India	No

23. Areas of consultancy and income generated :

Sr.No.	Industry Name	Area	Income Generated	Name of the Faculty
1	Super Urea Coat Ltd.	Process Development	**1.2 lacs**	**Prof. R.N Jagtap**
2	Silvolac Ind.	Process Development	**1.2 lacs**	**Prof. R.N Jagtap**
3	Jain Irrigation Ltd.	Process Development	**1.2 lacs**	**Prof. R.N Jagtap**
4	Crompton & Greaves	Expert Advise	**1.2 lacs**	**Prof. R.N Jagtap**
5	Board of Research in Nucl Science.	Expert Advise	**15 lacs**	**Prof. R.N Jagtap**
6	Vinnati Organics Ltd	Expert Advise	**1.2 lacs**	**Prof. R.N Jagtap**
7	Technova Imaging Systems Ltd.	Expert Advise	**2.4 lacs**	**Prof. R.N Jagtap**
8	Ishaan Industries	Process Development	**1.2 lacs**	**Prof. R.N Jagtap**
9	BASF India Ltd	Expert advise	**80000/-**	**Dr. A.S. Sabnis**
10	Pidilite industries	Expert advise	**1.5 lacs**	**Dr. A.S. Sabnis**
11	Miscellaneous	Expert advise	**2 lacs**	**Dr. A.S. Sabnis**
12	Shell India Pvt. Ltd.	Development project	**10 lacs**	**Dr. A.S. Sabnis**
13	Polyfibre Ltd.	Product Engineering	5,00,000/-	**Dr. S.T.Mhaske**
14	Supreme	Product Engineering	1,00,000/-	**Dr. S.T.Mhaske**
15	BASF	Product Engineering	3,00,000/-	**Dr. S.T.Mhaske**
16	M/s Associated Chemicals, Mumbai.	Expert advise		**Prof. P. A. Mahanwar**

17	M/s Shiva Chemical Pvt. Ltd., Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
18	M/s Texcel Plastics Ltd., Mumbai	Expert advise		**Prof. P. A. Mahanwar**
19	M/s Chembond Chemicals Ltd., Mumbai	Expert advise		**Prof. P. A. Mahanwar**
20	M/s Jagdamba Enterprises, Jodhpur.	Expert advise		**Prof. P. A. Mahanwar**
21	M/s Rayechem RPG. Ltd., Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
22	M/s Jai Bharat Textiles., Mumbai	Expert advise		**Prof. P. A. Mahanwar**
23	M/s Gondallia Associates, Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
24	M/s Ajay Industries Akola	Expert advise		**Prof. P. A. Mahanwar**
25	M/s D. G. False Flooring system Mumbai	Expert advise		**Prof. P. A. Mahanwar**
26	M/s Sun Petrochemicals Pvt. Ltd. Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
27	M/s Shanoo Paints Pvt. Ltd. Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
28	M/s Advance Paints Pvt. Ltd., Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
29	M/s British Scaffolding International Ltd.. Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
30	M/s Shushama & Electricals, Mumbai.	Expert advise		**Prof. P. A. Mahanwar**

31	M/s Supreme Industries. Ltd. Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
32	M/s Larsen & Tubro. Ltd. Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
33	Al- Yamaha Paints Factory, Saudi Arebia	Expert advise		**Prof. P. A. Mahanwar**
34	M/s Shaha Plasti Coats. Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
35	M/s. Varsha Coaters. Rajkot.	Expert advise		**Prof. P. A. Mahanwar**
36	M/s Jesons Industries. Ltd. Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
37	M/s Clariant (India). Ltd. Mumbai.	Expert advise		**Prof. P. A. Mahanwar**
38	M/s Noble Chemicals, Germany	Expert advise		**Prof. P. A. Mahanwar**
39	M/s Asian Paints Ltd, Mumbai	Expert advise		**Prof. P. A. Mahanwar**
40	M/s Mumbai Port Trust	Expert advise		**Prof. P. A. Mahanwar**
41	M/s RCF, Mumbai and Thal,	Expert advise		**Prof. P. A. Mahanwar**
42	M/s Kansai Goodlass Nerolac, Mumbai	Expert advise		**Prof. P. A. Mahanwar**
43	M/s Finolex Industries Ltd, Ratnagiri	Expert advise		**Prof. P. A. Mahanwar**
44	M/s British Scalfholdings Pvt. Ltd.	Expert advise		**Prof. P. A. Mahanwar**

24. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad

Hesse Lignal	Germany	International	**Dr. S.T.Mhaske**
Firat Ltd.	Turkey	International	**Dr. S.T.Mhaske**
National Plastics	Dubai	International	**Dr. S.T.Mhaske**
Wayne	USA	International	**Dr. S.T.Mhaske**
Garware wall ropes	Pune	National	**Dr. S.T.Mhaske**
SupremePetrochemLtd.	Raigad	National	**Dr. S.T.Mhaske**
Jai Corp. Ltd.	Vapi	National	**Dr. S.T.Mhaske**
K. J. Sommaiya College of Engineering	Mumbai	National	**Prof. P.A.Mahanwar**
Saboo Siddiqui College of Engineering.	Mumbai	National	**Prof. P.A.Mahanwar**
Veermata Jijabai Technical Institute	Mumbai	National	**Prof. P.A.Mahanwar**
Garware Institute of Carrier Education & Development	Mumbai	National	**Prof. P.A.Mahanwar**

25. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Sr. No.	Committee	Name of the faculty
1.	Vice Chairmen, Indian Plastics Institute, Mumbai Chapter.	**Dr. S.T.Mhaske**
2.	Secretary, The Color Society, India	**Dr. S.T.Mhaske**
4.	Hon. President, Color Society, Mumbai.	**Prof. P.A.Mahanwar**
5.	Member Board of Governors, UDCT Alumni Association, Mumbai.	**Prof. P.A.Mahanwar**
6.	Member, Technical Advisory Committee Ministry of Science & Technology, Government of India, New Delhi	**Prof. P.A.Mahanwar**
7.	Course Co-ordinator DPAT, Garware Institute University of Mumbai	**Prof. P.A.Mahanwar**

8.	Permenant Invitee: Indian Small Scale Paint Association (ISSPA)Indian Resin Manufacturers Association (IRMA)	**Prof. P.A.Mahanwar**
9.	All India Printing Ink Manufacturer's Association (AIPIMA)	**Prof. P.A.Mahanwar**
10.	All India Plastics Manufacturer's Association (AIPMA)	**Prof. P.A.Mahanwar**
11.	Hon. President: Indian Paint and Coating Association (Western Region)	**Prof. P.A.Mahanwar**
12.	Life Member: Indian Plastics Institute	**Prof. P.A.Mahanwar**
13.	Member Secretary: All Plastics Recycler's Association (APRA)	**Prof. P.A.Mahanwar**
14.	Life Member: Society of Polymers	**Prof. P.A.Mahanwar**
15.	Life member: Society of Plastics Engineers	**Prof. P.A.Mahanwar**
16.	Member: Bureau of Indian Standards CHD20	**Prof. P.A.Mahanwar**
17.	Member, Board of Governors, UDCT Alumni Association	**Prof. P.A.Mahanwar**
18	Vice-President, Color Society, Mumbai	**Prof. R. N. Jagtap**
19	Member, Society for Plastic Engineering	**Prof. R. N. Jagtap**
20	Member, Society for Chemistry	**Prof. R. N. Jagtap**
21	Member, American Chemical Society	**Dr. A. S. Sabnis**
22	Member, Committee for Raw materials for Paints, Varnishes and related Products Sectional Committee, CHD 21, Bureau of Indian Standards	**Dr. A. S. Sabnis**
23	Member, Color Society	**Dr. A. S. Sabnis**
24	Member , Alumni Association, UDCT	**Dr. A. S. Sabnis**
25	Member, Organization of Women in Science from Developing World (OWSD)	**Dr. A. S. Sabnis**

26. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops,

training programs and similar programs).

Name of Faculty	Training Courses	Duration	Sponsored By
Dr. Anagha Sabnis	Faculty development programme	7 Days	TEQIP
	Computational method of analysis, VJTI, Mumbai	5 Days 8-12th July 2013	TEQIP
	Patenting System in India, Nagpur	5 days 1-5th Feb 2016	AICTE
Mr A. R. Rao	Textile Composite & Nano Composite, VJTI, Mumbai	6 Days 30 oct- 4 nov 2017	AICTE
	Advanced in Application of Nano Technology, CIRCOT, Mumbai	5 Days 11-15 sept, 2017	TEQIP
	Bio-fuel , NITTR	14 Days March 2013	AICTE
	Wave theory & application, VJTI, Mumbai	6 Days 2-7th Jan 2017	AICTE
Dr. S. T. Mhaske	Wave theory & application, VJTI, Mumbai	6 Days 2-7th Jan 2017	AICTE

27. Student projects

- percentage of students who have done in-house projects including inter-departmental projects: 100%
- percentage of students doing projects in collaboration with other universities / industry / institute: Nil

28. Awards / recognitions received at the national and international level by

- **Faculty**

Sr. No.	Award	name of faculty
1.	**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.**	**Dr. S.T.Mhaske**
2	**Young Associate of Maharashtra Academy of Sciences**. **Govt. of Maharashtra**	**Dr. S.T.Mhaske**
3	**Secretory,** IPI, Mumbai	**Dr. S.T.Mhaske**

4	**Received award of Fellow of Maharashtra Academy of Science, Pune, 2015.**	**Prof. P.A. Mahanwar,**

- **Doctoral / post doctoral fellows:**

1) **Nikesh Samart** won Young Researcher Awards at International Conference on Advances in Science and Engineering (ICASE 2017), Regent's International College, Bangkok, January 20 – 22, 2017.
2) **Snehal Yedurkar** won Best oral presentation award at International Conference on Advances in Science and Engineering (ICASE 2017), Regent's International College, Bangkok, January 20 – 22, 2017.
3) **Sukanya Gangopadhyay, Arush Khanna, Madhumita Kulkarni and Prakash Mahanwar** won Best Paper Awards at Fourth International Conference On Polymer Processing And Characterization 2016, International Unit on Macromolecular Science and Engineering (IUMSE) Mahatma Gandhi University, Kottayam, Kerala, India
4) **Apurva Gaidhani** won Best Poster Awards at Fourth International Conference On Polymer Processing And Characterization 2016, International Unit on Macromolecular Science and Engineering (IUMSE) Mahatma Gandhi University, Kottayam, Kerala, India
5) **Gunawant Lokhande**: Best Research Paper(1st prize) in APC-Rangotsav2015, National Conference, ICT Polymer and Surface Engineering
6) **Dinesh Balgude, Kunal Wazarkar, Ajay Rane**
   1st Prize in Asian Paints Paper Contest-2013
7) **Rohit Pathak ,Dinesh Balgude, Amol Hajare**

   3rd Prize in Asian Paints Paper Contest-2013
8) **Mukesh Kathalewar and Nikita Mhadeshwar**

   Best Poster in MACRO-2015 held at Kolkata between 23-26 January 2015
9) **Kunal Wazarkar and Nikita Mhadeshwar**

   2nd Prize in Asian Paints Paper Contest-2014

- **Students :**

Sravya Nuguri Final Year Polymer

- Runner-up in Kryotech-IIT Kharagpur for presenting the best design for polio vaccine storage.
- Winner in Industry Defined Problem for providing a solution to-"Develop a highly abrasion resistant and scratch resistance transparent coating for Polycarbonate Surfaces" for Crizal- Essilor Lens Company organised by VORTEX-ICT-2016.
- Runner-up at Environ, Kshitij- IIT Kharagpur-2016 for providing an effective way to reduce the carbon footprint via "Microalgal Carbon Sequestration"
- Winner in Papyrus Presentation Competition on the topic- "Depolymerisation of Brominated Epoxy and Polycarbonate using Ultrasonication technique".

Sumeet Gupta Final Year Coatings

- Manifesto (Poster presentation, Vortex 2016) – 1st Prize

Dhawal Unune Final year

- PSE Asian Paints paper Competition- 1st Prize, OYCE Poster Presentation-1st Prize,Rangotsav Poster-1st Prize, UMIT TPP- 1st Prize

Sainath Jadhav Final Year

- Polymer Industrial Defined Problem(Vortex 2016)-1st Prize

Abhinay Bhagat Final Year Polymer

- Duet Dance at Pratibhimb VJTI-1st Prize

Mayuri Porwal Third Year Polymer

- Selected as prestigious S.N. Bose Scholar Programm, 2017
- M.V.Joshi Platinum Jubilee Endowment Award (2016 for securing highest marks in SEM 1 and 2)
- Professor M.A.Nabar Prize for standing first in Chemistry 2016

Pratik Mantri Third Year Polymer

- Jr. Industry Defined Problem Vortex 2015:1st Prize

29. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

Sr. No.	Title of Workshop/Seminar/ Conference	Speaker	Date of Event
1	Advances in Polymers and Coatings: Rangotsav 2017	Plenary Lectures, Paper / Poster Presentations	18th march,2017
2	Advanced Manufacturing Technology and New Materials	Plenary Lectures	22nd April 2016
3	Advances in Polymers and Coatings: Rangotsav 2016	Plenary Lectures, Paper / Poster Presentations	6th feb,2016
4	Seminar on “Experiencing Breakthroughs in Separation & Detection Techniques” by Agilent	From Agilent	23rd June, 2015
5	DST – TIFAC: MSME, ICT and APRA workshop on “3D Printing and its Applications”	Mr. Siddhanth Pai, Prototype Printing, Pune	25th February, 2015
6	ICT – IPI One Day workshop on “Advances in Analytical Techniques for Plastics, Polymer, Composites & Packaging Industries”	Dr. Swaminathan Sivaram, NCL - CSIR	10th April, 2015
7	Advances in Polymers and Coatings: Rangotsav 2015	Plenary Lectures, Paper / Poster Presentations	30th – 31st January, 2015
8	DST – TIFAC: MSME, ICT and APRA seminar on “Health, Safety, Cleanliness and Hygiene at Workplace”	Several Invited Speakers including Dr. Anil Kakodkar	15th – 16th December, 2014
9	Golden Jubilee Visiting Fellowship Lecture on “Photovoltaics Education & Research at UNSW and ACAP / AUSIAPV”	Dr. Richard Paul Corkish, University of New South Wales, Australia	7th August, 2014

10	Seminar on "Nanotechnology in Australia"	Prof. Gunther Andersson, Flinders University, Australia	26th March, 2014
11	Advances in Polymers and Coatings: Rangotsav 2014	Plenary Lectures, Paper / Poster Presentations	17th – 18th January, 2014
12	UDCT Diamond Jubilee Visiting Fellowship in Polymer Science & Technology	Dr. Lalit Varshney, Head – RTDS, BARC	7th September, 2013
13	Tipco - UDCT Diamond Jubilee Visiting Fellowship in Thermosets & Composites	Dr. Suryasarthi Bose, IISc Bengaluru	5th – 6th September, 2013
14	Synpol – ICT Diamond Jubilee Visiting Fellowship in Science & Technology of Pigments Endowment	Mr. Amit S. Ambelal	31st August, 2013
15	Advances in Polymers and Coatings: Rangotsav 2013	Plenary Lectures, Paper / Poster Presentations	15th – 16th February, 2013
16	Seminar on "Current Research Trends in Polymer Science"	Dr. George Bechtold, DFG, Germany	1st December, 2012

30. Code of ethics for research followed by the departments:

(a) Plagiarism is avoided using web based tools
(b) Honesty, team work is promoted
(c) Avoid results manipulation

31. Student profile programme-wise:

B.Tech

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
2017-18	As per our communication with academic section, ICT. This data can be obtained from DTE	28	7	Pursuing First Year	
2016-17		23	9	Pursuing Second Year	
2015-16		23	11	Pursuing Third Year	
2014-15		18	11	Pursuing Final Year	
2013-14		24	6	100	100
2012-13		26	7	100	100

M.Tech

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female

(M.Tech)					
2017-2019	97	21	10	Pursuing First Year	
2016-2018	100	20	7	Pursuing Second Year	
2015-17	77	17	4	100	100
2014-16	35	14	8	100	100
2013-15	30	16	5	100	100
2012-14	40	21	6	100	100
2011-13	31	14	9	100	100

32. Diversity of students: Not applicable for UG

Applicable for PG

Name of the Programme (refer to question no. 4)	**% of students from the same university**	**% of students from other universities within the State**	**% of students from universities outside the State**	**% of students from other countries**
2017-19	0	54.8	45.2	-
2016-18	14.3	53.6	32.06	0.04
2015-17	27.27	50	22.72	-
2014-16	15.8	57.9	26.3	
2013-15	28.57	71.42	-	-
2012-14	18.51	81.48	-	-
2011-13	26.08	73.91	-	-

33. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

GATE Qualified Student Last 4 Years: 42

Sr. No	**Name**	**Catergory**	**Year**
1	Ahmad Hamza	Open	2017-18
2	Animesh Kumar	Open	2017-18
3	Debarati Maity	Open	2017-18
4	Devesh Kothari	Open	2017-18
5	Dwij Kamlesh Dave	Open	2017-18
6	G S Jyoti Darsan Mohanty	Open	2017-18
7	Gauri Prakashrao Deshmukh	OBC	2017-18
8	Harsh Ayesh Pandya	Open	2017-18

9	Kamalakanta Maikap	Open	2017-18
10	Nagarajaniyer C	Open	2017-18
11	Omkar Subash Borde	OBC	2017-18
12	Pratik Kasbe	SC	2017-18
13	Priyanka Mojad	OBC	2017-18
14	Rahul Singh	SC	2017-18
15	Sabyasachi Behera	SC	2017-18
16	Shruti Parkhe	OBC	2017-18
17	Sonam Khuntia	Open	2017-18
18	Vidula Randugwar	Open	2017-18
19	Jeganathan R	Open	2017-18
20	Anurag Gupta	Open	2017-18
21	Mule Anup	Open	2016-17
22	Mehta Linchon	Open	2016-17
23	Nal Prakash	Open	2016-17
24	Patel Meghkumar	Open	2016-17
25	Tejashree Amberkar	Open	2016-17
26	Sakshi Arora	Open	2016-17
27	Satdive Ajinkya	SC	2015-16
28	Prajapati Jignesh	Open	2015-16
29	Gautampurkar Anshul	Open	2015-16
30	B. Ashok Kumar	Open	2015-16
31	Chaudhary Tushar	Open	2015-16
32	Mukesh Chauhan	OBC	2015-16
33	Stuti Shukla	Open	2015-16
34	Apurv Nitin	Open	2015-16
35	Samant Tanmay	Open	2015-16
36	Bramhech Indrajit	Open	2015-16
37	Bamane Pratiket	SC	2014-15
38	Bhanarkar Sachin	NT-B	2014-15
39	Pranavbalaji R	Open	2014-15
40	Bhavya Goyal	Open	2014-15
41	Gayatri Balraj	SC	2014-15
42	Irshad Inamdar	Open	2014-15

34. Student progression

Student progression	Percentage against enrolled
UG to PG	32
PG to M.Phil.	00
PG to Ph.D.	40
Ph.D. to Post-Doctoral	00

Employed □ Campus selection □ Other than campus recruitment	 75 25
Entrepreneurs	1

35. Diversity of staff

Percentage of faculty who are graduates	
of the same university	85
from other universities within the State	15
from universities from other States	Nil
from universities outside the country	Nil

36. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period : Nil

37. Present details of departmental infrastructural facilities with regard to

a) Library : common facility for entire Institute

b) Internet facilities for staff and students: All faculties as well as students have the facility for Internet access.

c) Total number of class rooms : details as below

d) Research laboratories: details as below

e) Class rooms with ICT facility : 2 nos

f) Students' laboratories : details as below

g) Research laboratories: details as below

Sr. NO	Available area (sq. m)	Capacity	Classroom
1	124	30	Lecture Hall 1
2	124	30	Lecture Hall 2
3	210	60	PRC Class Room

38. List of doctoral, post-doctoral students and Research Associates

Sr. No.	Room No.	Name of Room/Laboratory	Experimental /Comp	Sq. Mt.
1	A-163	Instrument Lab	Characterization	91.86
2	A-161	GPC Room	Testing	10.62
3	A-164	Research Lab/ Instrument	Synthesis and Testing	39.42
4	A-164	Color Matching lab	Testing	39.42
5	A-169	Processing Lab.	Processing	103.34
6	A-171	Research Lab	Synthesis	50.90
7	A-134	Research Lab.	Synthesis	57.22
8	A-134	Research Lab	Synthesis	99.22

Faculty	Host University	Other universities
	Nakula S. Bhutad	Gunwant Lokhande

Prof. R. N. Jagtap	Pratiket Bamane	Sachin Chambhare
	Ambadas Garje	Poonam Saindane
	Rajesh Prabhu	Santosh Wagh
		Yogesh Chimankar
		Tushar Sontake
		Dipak Tathe
		Raghunath Ingle
		Nishant Tale
		Prashant Gupta
		Mustafa Kapadia
		Kirti Trivedi
Prof. P. A. Mahanwar	Chandan Fuke	Sunder Kelkar
	Khushi Gorasia	Snehal Yedurkar
	Pravin Gaikawad	Priyanka Oberoi
	Nikesh Samarth	Bhuwanesh Sharma
	Manoj Bhatnagar	Savita Bansode
	Rohit Tarade	Rakesh Patil
	Vinayak Kamble	Pallavi Deshmukh
	Ravindra Gadhave	Dhyaneshvar Karad
	Vivek Gawal	R. H. Dongre
	S. Sahay	Adarsh Telvekar
		Shweta Umale
		Malhar Kulkarni
Dr. A. S. Sabnis	Mukesh Kathalewar	
	Dinesh Balgude	
	Vandana Jamdar	
	Kunal Wazarkar	
Dr. S. T. Mhaske	Aarti More	Vijay Jamnik
	Manoj Mali	
	Nidhi Shah	Ajit Patil
	Ganesh Phalak	Sumit Lal
	Deepak Patil	Hitesh Singh
	Arjit Gargil	
	Rishabh Chaudhary	
	Sumit Tated	
	Swapnil Kokate	
	Pravin Kadam	
	Parag Wasekar	
	Niranjan Savdekar	
	Kunal Yeole	
Dr. V. V. Shertukade	Chaitanya Mundhe	Pramod Nikam
	Ulka Rane	Prarthana Dhanvijay
	Vaishnav Gharat	

39. Number of post graduate students getting financial assistance from the university.

Nil

40. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

NO

41. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

Yes and it is recorded in MIS system

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

Feedback forms are stored in files of Department office

42. List the distinguished alumni of the department (maximum 10)

Sr. No.	Name & Brief Data	Business
1	Mr. Ravi K. Marphatia – B.Sc.(Tech), PPV., 1949, Consultant to many industries & Visiting Professor at UICT for Surface Coatings	Consultant
2	Mr. B.M.Thakkar - B.Sc.(Tech), PPV, 1944 Producer of raw materials for thermosetting Resins and Moulding compounds	Tipco Industries Ltd.
3	Mr. B.S. Rajpurohit - B.Sc. Tech), Plastics , 1960 Producer of Equipment in Polymers and plastics such as PVF, PP, PVDF and FRP.	Chemical Process Equipments Ltd.
4	Mr. J.R. Shah	M.D. Jayvee Organics Mumbai
5	Mr. Ashwin S. Dani	M.D. Asian Paints
6	Dr. Y.B. Vasudev	Ex. Senior V.P. (Tech) Reliance Industries Ltd
7	Mr. J.M. Nadkarni	Ex. M.D. Bombay Paints
8	Mr. M.C. Choksi	Ex. M.D. RPL

9	Mr. A.E. Ladhabhoy	Ex. Senior V.P. Reliance Industries Ltd.
10	Mr. N.K. Narkhede	Ex. M.D. Narchem Industry

43. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

Sr. No.	Title of Workshop/Seminar/ Conference	Speaker	Date of Event
1.	Advances in Polymers and coatings: Rangostav 2017	Plenary Lectures, Paper / Poster Presentations	18th March 2017
2	Saurdip Chemical industries Pvt Ltd.	Visiting Fellowship Lecture	22nd Sept 2017
3	Advanced Manufacturing Technology and New Materials	Plenary Lectures	22nd April 2016
4.	Advances in Polymers and coatings: Rangostav 2016	Plenary Lectures, Paper / Poster Presentations	6th February 2016
5.	Seminar on "Experiencing Breakthroughs in Separation & Detection Techniques" by Agilent	From Agilent	23rd June, 2015
6.	DST – TIFAC: MSME, ICT and APRA workshop on "3D Printing and its Applications"	Mr. Siddhanth Pai, Prototype Printing, Pune	25th February, 2015
7.	ICT – IPI One Day workshop on "Advances in Analytical Techniques for Plastics, Polymer, Composites & Packaging Industries"	Dr. Swaminathan Sivaram, NCL - CSIR	10th April, 2015
8.	Advances in Polymers and Coatings: Rangotsav 2015	Plenary Lectures, Paper / Poster Presentations	30th – 31st January, 2015
9.	DST – TIFAC: MSME, ICT and APRA seminar on "Health, Safety, Cleanliness and Hygiene at Workplace"	Several Invited Speakers including Dr. Anil Kakodkar	15th – 16th December, 2014
10.	Golden Jubilee Visiting Fellowship Lecture on "Photovoltaics Education & Research at UNSW and ACAP / AUSIAPV"	Dr. Richard Paul Corkish, University of New South Wales, Australia	7th August, 2014
11.	Seminar on "Nanotechnology in Australia"	Prof. Gunther Andersson, Flinders University, Australia	26th March, 2014
12.	Advances in Polymers and Coatings: Rangotsav 2014	Plenary Lectures, Paper / Poster Presentations	17th – 18th January, 2014
13.	UDCT Diamond Jubilee Visiting Fellowship in Polymer Science & Technology	Dr. Lalit Varshney, Head – RTDS, BARC	7th September, 2013
14.	Tipco - UDCT Diamond Jubilee Visiting Fellowship in Thermosets & Composites	Dr. Suryasarthi Bose, IISc Bengaluru	5th – 6th September, 2013

15.	Synpol – ICT Diamond Jubilee Visiting Fellowship in Science & Technology of Pigments Endowment	Mr. Amit S. Ambelal	31st August, 2013
16	Advances in Polymers and Coatings: Rangotsav 2013	Plenary Lectures, Paper / Poster Presentations	15th – 16th February, 2013
17.	Seminar on "Current Research Trends in Polymer Science"	Dr. George Bechtold, DFG, Germany	1st December, 2012

44. List the teaching methods adopted by the faculty for different programmes.

Industry visits are arranged for better understanding of the subject. Powerpoint presentations including relevant videos from internet are made available for students.

45. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Regular feedbacks from students, employees as well as alumni are obtained and accordingly course content is modified. Also, the methodology adopted in "continuous assessment" help in generating a bridge between different courses.

46. Highlight the participation of students and faculty in extension activities.

Guest lectures from industry people are arranged to let the students know current research and technology going on about the concerned topic. Students are allowed to interact and ask questions to them. Along with the theoretical knowledge, regular In-plant visits are arranged by the department to well known industries to give in depth knowledge about the subject.

47. Give details of "beyond syllabus scholarly activities" of the department.

Technical conference "Rangotsav" is arranged annually, wherein undergraduates, post graduates and doctoral fellows from host as well as other industries are encouraged to present their research and/or review articles.

48. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

Nation Board of Accreditation for Bachelor Course B.Tech (Polymer Engineering and Technology, Surface Coating Technology)

Nation Board of Accreditation for Master Course M.Tech (Polymer Engineering and Technology, Surface Coating Technology)

49. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Department of PSE is actively engaged in basic and applied research. The department is rated as the best Polymer engineering department in India in terms of quantity and quality of research. A large amount of funding generated through research projects and new projects approved by industries and government agencies and industrial consultancy. Faculty members are actively engaged in consultation activity and are helping industries to improve the productivity as well as bring down the cost of production.

50. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the

department.

Strength

Flexible structure

Faculty take part in administrative affairs

Good interpersonal relationships

Teaching (both UG and PG) and research programmes exist in a large variety of frontier as well as unique areas.

A large no. of high monetary value sponsored research projects.

A large no. consultancy projects

State of the art laboratories

Weaknesses

Limited campus space

Limited hostel facilities

No specific contact hours for PG students. Hours may be inadequate in comparison with other institutions in the country.

Limited number of faculty and no recruitment in last ten years.

Opportunities

Refresher courses and Continuing Education Programs for industry personnel

Revision of B.Tech. / M. Tech. Syllabi for better recognition worldwide (GPA system, continuous evaluation, etc.)

Web based teaching programs / distance education programs can be started

Collaboration with leading Universities at International level

Infrastructure needs to be upgraded

Challenges

Competition from Indian institutes and Universities

51. Future plans of the department.

Increase in the number of research

Centre for Eco-friendly Plastic Processing and Recycling : Professor P.A. Mahanwar / Dr. S. T. Mhaske

More linkage with the universities within and abroad will be established so also with the industry. This is expected to reflect in better exposure to the students and also implementation of innovative research activities by cross cultivation.

PHARMACEUTICAL SCIENCES AND TECHNOLOGY DEPARTMENT

Pharmaceutical Sciences and Technology Department

The Department of Pharmaceutical Sciences and Technology (DPST) was established in the year 1943, with the initiation of the B.Sc. (Tech) course in Pharmaceuticals and Fine Chemicals, a two year course, followed by the Bachelor of Pharmacy (B.Pharm) a three year course, starting in in 1958. Subsequently the Masters courses in both streams and Doctoral courses commenced. Today DPST offers the B.Tech (Pharmaceutical Chemistry and Technology) and B.Pharm, both four year courses, M.Tech in Pharmaceutical Technology and M.Pharm in three branches; Pharmaceutics, Pharmaceutical Chemistry and Medicinal Natural Products. The Department also supports the M.Tech courses of ICT in Bioprocess Technology, Green Technology and Perfumery. Ph.D. (Tech) programs are offered in Pharmaceutical Technology, Pharmaceutics, Pharmaceutical Chemistry, Pharmacology and Pharmacognosy while PhD programmes are offered in Biotechnology and Chemistry.

The B. Tech. course which deals with the technology of manufacture of drugs and pharmaceuticals, has all the ingredients for a solid foundation in basic sciences, mathematics, computation and chemical engineering. 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 synergize with the major focus, which is on manufacturing process technology and chemistry of intermediates and fine chemicals, active pharmaceutical ingredients (API), natural products, and pharmaceutical formulation development.

The goal of the B.Pharm course, the first course in the state of Maharashtra, is to enable an understanding of the science of drugs and drug actions. The course involves a detailed study of Pharmaceutics, Pharmaceutical and Medicinal chemistry, Pharmacology, Pharmaceutical Analysis and Pharmacognosy. 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 vision of DPST is 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. In keeping with the vision the **mission** of the department is 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.

Currently the student strength of DPST is 190 undergraduates, 43 Masters Students and 138 PhD students. The thrust areas of research include Pharmaceutical and Medicinal Chemistry, Drug Delivery Technology, Pharmacology and Pharmacognosy. DPST has received recognition as a Centre of Advanced Studies in Pharmaceutical Science and Technology, from the UGC and support under the DST FIST programme. Faculty are involved actively in research and have attracted number of projects from Government of India and the industry both national and

international. Over the past five years, total grants of more than Rs. 17 crores have been received. DPST has over the years built up infrastructure for teaching and research and has modern facilities and sophisticated equipment. In the past five years DPST has over 350 Publications in peer reviewed high impact factor journals, 15 patents filed, 23 monographs on herbal medicines and 21 books and book chapters.

Our distinguished alumni include Dr. John Kapoor, Dr. A.V.Rama Rao, Dr. Shirish Modi, Dr. K. Anji Reddy, Prof. M.R.Baichwal, Dr. R.P.Iyer, Dr. Dhiren Thakker and Nitin Deshmukh amongst others.

Several Symposia, seminars, workshops and endowment lectures are regularly organised by the department. A few of the events organized in the last few years are mentioned below:

International Symposium on Drug Discovery in Infectious Diseases and Cancer (DDIDC) held on 16th-17th Jan, 2013 organized by Dept. of Pharm Sci. And Tech.

International workshop on research writing skills "Publish or Perish" held on 12th-13th Nov, 2013 organized by Dept. of Pharm Sci. And Tech.

Prof. M.R. Baichwal Endowment lecture

Held on 23rd Oct, 2013 organized by Dept. of Pharm Sci. And Tech.

Dr. Amit Misra, CSIR Lucknow

Prof. S.K. Pradhan Endowment lecture

held on 28th Jan, 2014 organized by Dept. of Pharm Sci. And Tech.

Speaker Dr. G. Mugesh with guests and faculty

Prof. R.S Baichwal Seminar

held on 5th march, 2014 organized by Dept. of Pharm Sci. And Tech.

Speakers and Faculty

ICT UKIERI Seminar on Green Processing Technologies for Poorly Soluble Drugs

Themis Chemicals Visiting Fellowship Endowment Lecture Held On 11th Feb, 2014 Organized By Dept. of Pharm Sci. and Tech.

Cipla Endowment Lecture held on July 24th, 2014 organized By Dept. of Pharm Sci. and Tech.

Dr. Sanjib Bhakta with Prof. M.S. Degani

Prof M.R. Baichwal Endowment Lecture

held on February 23rd, 2015 organized by Dept. of Pharm Sci. and Tech.

Prof Bhupinder Singh Bhoop with Prof. P.V. devarajan, Head, Dept. of Pharm Sci. and Tech.

Professor S. K. Pradhan Endowment Lecture

held on February 23rd, 2015 organized by Dept. of Pharm Sci. and Tech.

Dr. Jyoti Chattopadhyaya with audience

TEQIP Workshop on Intellectual Property Rights

Held On Feb 4th, 2015 Organized By Dept. of Pharm Sci. and Tech.

1. **Year of establishment:** 1943
2. **Is the department part of a School/Faculty of the university?** Yes
3. **Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc. D.Litt., Etc.)** B.Pharm, B.Tech (Pharma), M.Pharm (Pharmaceutics, Pharmaceutical Chemistry, Medicinal Natural Products), M. Tech (Pharma), M.Tech (Pharma. Biotechnology), Ph.D. (Tech), Integrated Ph.D.
4. **Interdisciplinary programmes and departments involved:** Nil
5. **Courses in collaboration with other universities, industries, foreign institutions, etc. :** Nil
6. **Details of programmes discontinued, if any, with reasons:** Nil
7. **Examination System:** Semester
8. **Participation of the department in the courses offered by other departments:**
   M. Tech (Green Tech), M. Tech (Bioprocess Technology), M.Tech (Pharma. Biotechnology) and M. Tech (Perfumery)
9. **Number of teaching posts sanctioned, filled and actual (Professors/Associate, Professors/ Asst. Professors/others)**

	Sanctioned	Filled	Actual (including CAS and MPS)
Professors	3	1	8
Associate Professors	6	4	2
Asst. Professors	7	7	3
Others	1	-	1

10. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	Number of Years of Experience (Years)	Number of Ph.D. Students guided for the last 4 years	
					Completed	Ongoing
K. G. Akamanchi	B.Sc., B. Sc. (Tech.), Ph.D. (Tech.)	Professor of Pharmaceutical Technology	Pharmaceutical Chemistry	31	12	10
Purnima D. Amin	B. Pharm., M. Pharm., Ph.D. Tech	Professor in Pharmacy	Pharmaceutics	27	6	11
Ganesh U. Chaturbhuj	PhD (Tech)	Asst. Professor in Pharmaceutical Chemistry	Pharmaceutical Chemistry	13	0	6

Hemchandra K. Chaudhari	PhD (Tech)	Asst. Professor in Pharmacy	Pharmaceutical Chemistry	2.5	0	0
Mariam S. Degani	B.Pharm, M.Pharm, PhD (Tech)	HOD of Pharmaceutical Science and Technology; Professor in Pharmaceutical Chemistry	Pharmaceutical Chemistry	30	3	17
Padma V. Devarajan	B.Pharm, M.Pharm, PhD (Tech)	Professor of Pharmacy	Pharmaceutics	29	11	19
Prajakta Dandekar Jain	Ph. D. (Tech.) in Bioprocess Technology	UGC Assistant Professor in Engineering Sciences	Pharmaceutical Biotechnology	4	-	5
Joshi Shrirang Vidyadhar	B.Sc., B. Sc. (Tech.), Ph.D. (Tech.)	Professor in Pharmaceutical Chemistry	Pharmaceutical Chemistry	23 (Industry) 3 (Acad.)	-	0
Archana Ramesh Juvekar	B.Pharm. M.Pharm. Ph. D (Tech.)	Professor in Pharmacology and Physiology	Pharmacology	29	04	10
K.S.Laddha	PhD Tech	Professor	Pharmacognosy and Phytochemistry	26	5	11
Vandana B. Patravale	Ph.D. (Tech.)	Professor of Pharmaceutics	Pharmaceutics	25	10	21
Sadhana Sathaye	PhD Tech	Associate Professor in Pharmacy	Pharmacology	24	03	13
Vikas N. Telvekar	B.Sc, B.Sc (Tech), M.Sc (Tech) PhD (Tech)	Assistant Professor in Pharmaceutical Chemistry	Pharmaceutical Technology	13	8	8
Pradeep Ratilal Vavia	B.Pharm. M.Pharm.Ph. D (Tech.)	Professor in Pharmaceutics, Academic Dean, I/c Head, Department of oils, Oleochemicals and Surfactants Technology	Advance Pharmaceutics	22	12	16

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors, and senior visiting fellows:

- Professor Donald Abraham
- Professor Theresa M. Allen
- Dr A. H. Bandivdekar
- Dr. N. H. Balasinor
- Professor Bhupinder Singh Bhoop
- Dr. Jyoti Chattopadhyaya
- Mr. Mahendra B Chaudhari
- Mr. Bidhan Dasgupta
- Dr. Pankaj B. Desai
- Dr. Vilas Dhanukar
- Mr. Sundeep Dugar
- Dr. Susheel Durani
- Dr. Krishna N. Ganesh
- Prof (Dr). Kanjaksha Ghosh
- Dr. Sudipta Maiti
- Professor Amit Misra
- Professor Goverdhan Mehta
- Dr. Kasim Mookhtiar
- Dr. G. Mugesh
- Dr. Kuppuswamy Nagarajan
- Prof. Anant Paradkar
- Dr. M.G.R. Rajan
- Professor Dr. P. S. Ramani
- Dr. B. S. Shankarnarayna Rao
- Dr. Rajiv Sarin
- Dr. Shobhona Sharma
- Professor Dhiren R Thakker
- Professor Dr. Ganesh Thakur
- Professor P. Thyagarajan
- Dr. Lohit Tutupalli
- Dr. Vijay Walame
- Prof. M.R.Yadav

Adjunct Faculty:

- Dr. Noel D'Souza

- Dr. Bansi Lal

Emeritus Professors: Nil

12. Percentage of classes taken by temporary faculty – programme-wise information: NA

13. Programme-wise Student teacher ratio:

B.Pharm: 11.89
B.Tech: 2.50
M.Pharm: 4.64
M.Tech (Pharma): 1.45
PhD (Tech): 10.76

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual: Sanctioned: 15, **Filled:** 13, **actual:** 16 (13+3 Temporary)

15. Research thrust areas as recognized by major funding agencies:

UGC CAS-I:
Molecular Drug Design
Synthesis of Drugs by Novel methods
Design and Development of novel drug delivery systems

UGC CAS-I:
Nano Drug Delivery systems
Pharmacological and Toxicological screening models
CAMM (Computer Aided Molecular Modelling) based drug design and Process Chemistry

DST – FIST
Drug Discovery and Development
Drug Delivery Systems
Pharmaceutical and Phytochemical investigations of drugs and natural products

16. Number of faculty with ongoing projects from a) national b) international funding agencies and c) total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Number of faculty involved: 12

Funding Agency	Project Title	Total amount (Rs.)	National/International
AICTE	Extraction of phytochemicals by using green technology	25,00,000	National

AICTE	Process Engineering For Fabrication of Micro/ Nano Particles	18,00,000	National
AICTE Research Promotion Scheme	Design, synthesis and evaluation of peripherally restricted cannabinoid receptor 2 selective agonist for treatment of neuropathic pain	16,00,000	National
All India Council for Technical Education (RPS)	Isolation standardization and pharmacokinetic profiling of herbal drug	22,66,667	National
BRNS	Design, synthesis & evaluation of 18F ligands for diagnosis of Alzheimer's disease	18,72,265	National
Central Council for Research in Ayurveda & Siddha, Department of AYUSH	Studies on purification & detox-ification (Sodhana prakriya) of toxic Ayurvedic medicinal platns	5,91,000	National
Central Council for Research in Ayurvedic Sciences (CCRAS)	Safety/Toxicity Study of Classical Ayurvedic Formulations	16,40,000	National
DAE-BRNS	CD44 Targeted Hyaluronic acid-siRNA Bearing COS Nanoplexes	16,95, 000	National
DBT	Nanotherapeutics with Lipidic nanoparticles for the treatment of malaria	1,07,90,000	National
DBT	Extraction and isolation of seabuckthorn actives for developing nanocarrier based cosmeceuticals	58,34,000	National
DBT	NANOCOS": -COS-siRNA nanoplexes for inhibiting intracellular mycobacterial	19, 99, 000	National
DBT	Synthesis and Cellular evaluation of Novel Palladacycle complexes for breast cancer	24,81, 000	National
DBT	Development and Evaluation of Fixed Dose Combination for Tuberculosis By using Hot Melt Extrusion technology	45,00,000	National
DBT-ICMR	Rectal microbicideal nanotherapeutics for HIV/ AIDS	65,42,400	National

Department of Biotechnology	Development and evaluation of Fixed Dose Combination (FDCs) for Tuberculosis using Hot Melt Extrusion Technology	45,78,000	National
Department of Biotechnology	Custom deigned efficient safe intracellular targeted nanoparticulate veterinary drug delivery system	63,61,000	National
Department of Biotechnology	Targeted Nanoparticulate Drug Delivery System of Doxorubicin for hepatic cancer using asialoglycoprotein receptor mediated approach	48, 82, 000	National
Department of Biotechnology (DBT)	Early Translational Study Of Orally Administered Nanoparticulate Carriers For Pulmonary Targeting Of Anti-Tubercular Drug Combinations	1,01,49000	National
Department of Science Technology	Evaluation of anti-epileptic activity of medicinal plants in animal models of epilepsy	30, 11, 782	National
DST	Therapeutic approaches using controlled transdermal delivery to treat neurodegenerative diseases in aging populations	26,62,800	National
DST (Ramanujan fellowship)	Knocking down pathways responsible for intra-macrophage survival of Mycobacterium tuberculosis: RNAi-Nano approach	25,00, 000	National
ICMR	Nanotechnology-based diagnostic module for detection of brucellosis	18,44,524	National
ICMR	Evaluation of Targeted Nanoparticulate Drug Delivery System in Clinical Cases of Tuberculosis in Non-Human Primates	12,27,000	National
ICMR	Preclinical testing for safety of synthetic peptide 1of 80 kDA HAS for development of anti-fertility vaccine	12,00,000	National

Indian Council of Medical Research	Quality Standards of Indian Medicinal plants & Preparation of Monographs thereon	25,60,572	National
Indian Council of Medical Research	Quality Standards of Indian Medicinal plants and Preparation of Monographs thereon	31,51,539	National
Indian Council of Medical Research (Department of Health Research)	Development of Nasal Drug Delivery System of Antiepileptic Drugs for Emergency Therapy	10,08,724	National
Rajiv Gandhi Science and Technology Commission	Developing technology for extraction and isolation of Anti-Arthritic drugs from plants indigenous to Maharashtra.	55,16,999	National
Rajiv Gandhi Science and Technology Commission (RGSTC), Govt. of Maharashtra,	3D cell culture Technology for Developing Affordable Bioengineered Skin for Burn Patients	85,10,000	National
Rajiv Gandhi Science and Technology Commission	Extraction of Volatile oil from Orange Peels, Separation of Limonene from it and its Industrial Applications	19,49,250	National
RGNF	Novel lipidic drug delivery system by HME	12,85,000	National
Science & Engineering Research Board (SERB), Govt. of India	Design and Synthesis of Novel Antimycobacterial Agents	18,68,000	National
Science & Engineering Research Board (SERB), Govt. of India	Design, Synthesis and Evaluation of Novel Hypoglycemic Agents	12,00,000	National
SERB, DST	Ramanujan Fellowship	73,00,000	National

TEQIP	Microwave assisted Halogenation reactions using flow reactor	27,00,000	National
UGC	Continuous process for the production of solid lipid nanoparticles (SLN) as drug-carrier systems via hot-melt extrusion (HME)	7,00,000	National
UGC (Startup Research grant)	Exploring biodegradable polymer combination for developing nanoparticles for delivering therapeutic nucleic acids	6,00,000	National
UGC Major research Project	Design, Synthesis and Biological Evaluation of 2-Phenyl-4,5-(substituted)thiophene-3-carboxylic acid derivatives as Anti-inflammatory agents	7,52,000	National
UGC-MRP	Design and synthesis of novel arylquinoline analogues as potential anti-tuberculosis agents	19,96,000	National
UKIERI (UK-India Education and Research Initiative) funded by British Council	Hot melt extrusion assisted solid dispersions for oral bioenhancement of poorly bioavailable drugs under collaborative project 'process analytics enabled green technologies for processing of poorly soluble drugs'	40,00,000	International
University Grants Commission	Design and Synthesis of Anti-diabetic agents	12,40,000	National
University Grants Commission	Design, synthesis & biological evaluation of 2- pheny-4, 5-(substituted) 3- carboxylic acid derivatives as anti-inflammatory agents	7,52,500	National
DSIR	Development of Conbtrolled Release (CR) formulation of Natural Highly Purified Human Chorionic Gonadotropin (hCG)	1,59,55,000	National
DAE BRNS (2015-18)	Innovative Formulations of Radioprotectors and Immunomodulators Developed in BARC	30,44,000	National

Board of Research in Nuclear Sciences (BRNS)	Intranasal colloidal formulations for diagnostic and therapeutic applications	24,40,400	National
DST	Scientific validation and documentation of traditional knowledge	4,25,000	National
RUSA	Skin-on-a-chip for preclinical and biomedical applications	35,00,000	National
	Total	**13,69,13,640**	

17. Inter-institutional collaborative projects and associated grants received

National Collaborations

Project Title	Name of the collaborating Institute	Grant Received	Funding agency
Design, synthesis & evaluation of 18F ligands for diagnosis of Alzheimer's disease	BARC	18,72,265	BRNS
Development and evaluation of fixed dose combinations (FDC's) for tuberculosis using Hot Melt Extrusion Technology (HME)	ICT-ICT	45,78,000	DBT
Synthesis and Cellular evaluation of Novel Palladacycle complexes for breast cancer	Dept. of Chemistry, ICT	24,81,000	Department of Biotechnology
Custom design efficient safe intracellular targeted nanoparticulate veterinary drug delivery system	BVC, NIRRH	63,60,000	Department of Biotechnology
NANOCOS": -COS-siRNA nanoplexes for inhibiting intracellular mycobacteria	The Foundation for Medical Research, Mumbai	19, 99, 000	Department of Biotechnology
Early Translational Study Of Orally Administered	National JALMA Institute of Leprosy &	1,01,49,000	Department of Biotechnology (DBT)

Nanoparticulate Carriers For Pulmonary Targeting Of Anti-Tubercular Drug Combinations	Other Mycobacterial Diseases, Agra		
Rectal Microbicideal Nanotherapeutics for HIV/ AIDS	National Institute for Research in Reproductive Health, Mumbai	65,42,400	Department of Biotechnology (DBT)- Indian Council of Medical Research (ICMR)
Development and evaluation of siRNA loaded nanomedicine in computational and cellular Models	IIT-Bombay, National Institute of Research in Reproductive Health (Mumbai)	2,82,32,000	Department of Science and Technology
Evaluation of antiepileptic activity of plants in animal model of epilepsy	NIMHANS-ICT	34,61,000	DST
Evaluation of Targeted Nanoparticulate Drug Delivery System in Clinical Cases of Tuberculosis in Non-Human Primates	BVC, NIRRH	12,27,000	ICMR
Preclinical testing for safety of synthetic peptide 1 of 80 kDA HAS for development of anti-fertility vaccine	NIRRH, National Institute of Nutrition Hyderabad	12,00,000	ICMR
Nanotechnology-based Diagnostic Module for Detection of Brucellosis	Bombay Veterinary College, Mumbai	18,44,524	Indian Council of Medical Research (ICMR)
Innovative Formulations of Radioprotectors and Immunomodulators Developed in BARC	DAE BRNS (2015-18)	30,44,000	BRNS
Intranasal colloidal formulations for diagnostic and therapeutic applications	Board of Research in Nuclear Sciences (BRNS)	24,40,400	BRNS

International Collaborations

Project Title	Name of the collaborating Institute	Grant Received	Funding agency
Antitumor and anti-metastatic potential of Indian spices	University of Delaware (DE), USA	$15600	University of Delaware (DE), USA
Investigation of biologically active molecules as novel therapeutic strategies in Parkinson's disease	King's College London Wolfson Centre for Age-Related Disease Department of Neurodegeneration, Wolfson Wing, Hodgkin Building London, U.K.	£13800	Newton Bhabha (DST inspire)
Screening of new therapeutic entities in Alzheimer's disease	King's College London Wolfson Centre for Age-Related Disease Department of Neurodegeneration, Wolfson Wing, Hodgkin Building London, U.K.	£13800	Newton Bhabha (DST inspire)
Process analytics enabled green technologies for processing of poorly soluble drugs	University of Bradford, UK	£40,000	UKIERI (UK-India Education and Research Initiative) funded by British council
Therapeutic approaches using controlled transdermal delivery to treat neurodegenerative diseases in aging populations	University of Geneva, Switzerland	Rs. 26,62,800	Department of Science and Technology (DST)
Artificial sensory systems for Optimizing palatability of paediatric pharmaceutical formulations	St. Petersburg ITMO University, Russia	Rs.25,27,000	DST and Russian Foundation for basic research

18. Departmental Projects Funded By DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, Etc.; Total Grants Received.

DST-FIST: Rs. 1.5 Crore
UGC CAS-I: Rs. 1.5 Crore
UGC CAS-II: Rs. 2, 62, 50, 000
AICTE MODROB: Rs. 30 lakhs

Total: Rs. 5, 92, 50,000

19. Research Facility/Centre with State, National or International Recognition: NA

20. Special Research Laboratories Sponsored By / Created By Industry or Corporate Bodies
Nano Drug Delivery and Drug Discovery Laboratory supported by J.B.Chemicals and Pharmaceuticals Ltd., Worli, Mumbai 400018

21. Publications:

Number of papers published in peer reviewed journals (national / international): 452

Monographs: 23

Number of books, chapters, edited books: 68

22. Details of patents and income generated

Patent filed/granted	
Title	**Patent number**
Pharmaceutical Compositions for Colloidal Drug Delivery	PCT/IN2011/000730
Bio adhesive barrier film and spontaneous plug forming teat dips	1998/MUM/2012
Nanocarriers for targeted delivery of active agents	2166/MUM/2012
Method of manufacturing concentrated silver Nano powder	2797/MUM/2014
Methods for preparation of water-soluble and water-insoluble derivatives of saccharides and alkali, alkaline earth, transition and nobel metals	2594/MUM/2014
Pharmaceutical composition for bioenhancement of active agents	1108/MUM/2012
Pharmaceutical composition for transdermal application	1218/MUM/2012
Pharmaceutical composition for combined immunization and therapy against macrophage host related infections	2266/MUM/2012
Non-invasive vaccine delivery system for immunization against brucellosis using green technology	2920/MUM/2013
Design Patent: Inhaler - Design No. - 261054	Certificate No: 37238
Point-of-care diagnostic test for rapid detection of brucellosis	3183/MUM/2013
Nanodrug delivery based on combination therapy for treating parasite infections	3567/MUM/2013
Highly porous dosage forms	887/MUM/2014
Novel lipid based carrier	2881/MUM/2015
Novel targeted lipid bioconjugates and delivery system thereof	2822/MUM/2015
Device for conserving low temperatures	TEMP/E-1/18754/2017-MUM
Dialysis assembly for dissolution testing.	E1/11472/2017-MUM
Kit for pyrogen detection and depyrogenation of water	4070/MUM/2015

Microfluidic device for the development of in vitro co-culture of mammalian tissues	20161000456
Viral reservoir site targeted novel nanocarriers for treatment of HIV AIDS	2251/MUM/2015
Surface modified dual targeted nanocarrier for anticancer drug delivery	3626/MUM/2015
Pharmaceutical composition containing Olmesartan medoxomil in an amorphous form prepared by hot melt extrusion	2252/MUM/2015
" Paus water purifier- a new generation charcoal free technology for water purification"	3427/MUM/2015
Nanostructured Lipid Carrier of propofol for improved parenteral delivery.	2871/MUM/2015
Rapid Microbial detection kit with smart capture technology	3434/MUM/2015
Antifungal preparations	3451/MUM/2015
Synergistic antimicrobial combinations	7685/MUM/2016
Pharmaceutical invention of bromocriptine	201721009236
A novelFormulation of Darifenacin hydrobromide for over active bladder syndrome (OAB)	201721014044
Development and evaluation of Wedelolactone for anti-epileptic activity by using nasal formulation for improved efficacy	CBR: 12433
Novel dendrimer and application thereof	201621034246
Stable atovaquone nanoparticles with increased bioavailability and pharmaceutical composition of the same	201621020162
Ion exchange resin based extended release gastro-retentive dosage forms	IN 249226
Oral dispersible film compositions prepared by twin-screw hot melt extrusion technology	201741000424
Topical preparations of carbomer based gel and emulgel using twin-screw hot melt extrusion technology	20174100425
Pharmaceutical compositions containing melt extruded ibuprofen and fixed dose combinations thereof	201621022853
Pharmaceutical dosage form comprising antimalarial ingredients in a solid dispersion using hot melt extrusion technology	1674/MUM/2013

Fabrication of cyclodextrin template mesoporous silica particles for improved dissolution of carbamazepine	422/MUM/2013
Continuous manufacturing process for preparing directly compressible grade api's by melt granulation technology	201621015220
Pharmaceutical compositions containing rifampicin using hot melt extrusion.	1581/MUM/2012
Co-processed excipients and process for preparing the same	3212/MUM/2010
Granular assemblies of hydroxyl propyl methyl cellulose and process of preparing the same	572/MUM/2009
An improved process for nucleophilic aromatic fluorination (provisional patent)	TEMP/E-1/29091/2016-MUM
Device for conserving low temperatures	TEMP/E-1/18754/2017-MUM
Dialysis assembly for dissolution testing.	E1/11472/2017-MUM

23. Areas of consultancy and income generated industry sponsored R&D projects

Funding Agency	**Amount (Rs.)**
NeuroSci, Inc, Ohio, USA (2008-2013)	1,770,000
Phoenix Pharmaceuticals LLC, USA	8,958,000
Mahaan Proteins Ltd. India (2011-2012)	100,000
Pfizer Pharmaceuticals, USA (2011-2012)	250,000
Abbott Healthcare (2013-2014)	205,000
Zim Laboratories	2,400,000
Nippon Synthetic Chemicals Pvt. Ltd.	730,000
Cyril Healthcare Pvt. Ltd.	200,000
Uni Sankyo Pvt. Ltd.	3,600,000
Lubrizol Advanced Materials Pvt. Ltd.	300,000
Lotus Surgical Pvt. Ltd.	1,708,000
Nippon Synthetic Chemicals Pvt. Ltd.	730,000

Sanzyme Pvt. Ltd	1,800,000
Glenmark Pvt. Ltd., Mumbai	482,563
Omniactive Health Technologies	636,378
Alkem Pharmaceutical Pvt. Ltd	1,000,000
Sahajanand Medical Technologies Pvt. Ltd	1,700,000
Grand Challenges Explorations Grants Round 11, Bill & Melinda Gates Foundation	~ 6,000,000
Emami Ltd.	1,000,000
Quantimmune solutions Pvt. Ltd.	400,000
Perrigo API India India Pvt. Ltd.	250,000
ASG Biochem Pvt. Ltd.	100,000
FDC Ltd.	250,000
Bajaj Healthcare Ltd(private)	186,000
Scope Excipients Ltd	150,000
Mascot Universal	100,000
Evonik Industries Ltd	413,300
P T Pharmacon	156,000
Arihant Trading Co. Ltd	150,000
Bajaj Healthcare Ltd(private)	300,000
VVF Ltd	379,000
Merck Ltd	1,200,000
M/s. Total Herb Solutions P. Ltd	50,000
Spring Bank Pharma, MA, USA	350,000
BASF	500000
Gattefosse India Pvt Ltd	545000
Evonik Industries AG	408000
Merck Ltd	1969000
Avenir Industries	650000
Punjab Chemicals and Crop Protection Ltd.	4,00,000

Johnson and Johnson Pvt.Ltd	33,00,000
Nippon Synthetic Chemicals Pvt. Ltd.	3,01,399
Nippon Synthetic Chemicals Pvt. Ltd.	11,05,000
T&T Pharma	16,33,389
Famycare India Ltd.	5,00,000
Neopharma Ltd.	12,00,000
Emami Ltd.	6,84,000
Neon Pharma	6,72,719
Synthite Industries Ltd	5,31,250
Sulphur Mills Ltd.	7,05,000
Ferring Pharmaceuticals	47,72,500
Amaterasu Lifesciences LLP	5,75,000
Morsef Pharmaceuticals	3,54,000
Phoenix Pharmaceuticals LLC, USA	30,00,000
Zim Laboratories	24,00,000
Punjab Chemicals	3,00,000
Trichem Healthcare Ltd	3,00,000
Bajaj Healthcare Ltd	3,00,000
BASF	500000
Total Income Generated	**65110498/-**

Consultancy:

Funding Agency	Amount (Rs.)
Phoenix Pharmaceuticals LLC, USA	2,460,000/-
Pfizer Pharmaceuticals, USA	750,000/-
Mahaan Proteins Ltd	50,000/-
Abbott Healthcare (2013-2014)	750,000/-
Emcure Pharmaceuticals Pvt Ltd	650,000/-
Zim Laboratories	167,000/-
M/S. Bajaj Health Care Pvt. Ltd.	3,300,000/-
CadilaPharma Pvt. Ltd., Ahmedabad, India	2,000,000/-
Sahajananad Medical Technologies Pvt. Ltd., Baroda, India	2,980,000/-
CavinKare Pvt. Ltd., Mumbai, India	500,000/-
Rubicon	300,000/-
Evonik Industries Ltd	210,000/-
Scope Excipients Ltd	50,000/-
Mascot Universal	50,000/-
P T Pharmacon	100,000/-
Bajaj Healthcare Ltd(private)	250,000/-
Arihant Trading Co. Ltd	50,000/-
VVF Ltd	150,000/-
Merck Ltd	350,000/-
BASF	200000/-
Gattefosse India Pvt Ltd	100000/-
Evonik Industries AG	-
Merck Ltd	200000/-
Aarti Industries limited	10,00,000/-
Aarti Industries limited	10,80,000/-
Tata international project	-
Total herb solution	50,000/-

Avenir Industries FZE	7500 USD
Total herb solution	1,44,000/-
Cadila Pharma Pvt. Ltd., Ahmedabad, India	5,00,000/-
Sahajananad Medical Technologies Pvt. Ltd., Baroda, India	7,45,000/-
CadilaPharma Pvt. Ltd., Ahmedabad, India	5,00,000/-
Sahajananad Medical Technologies Pvt. Ltd., Baroda, India	7,45,000/-
Mankind Pharma	1,58,000/-
Zim Laboratories	1,67,000/-
Emcure Pharmaceuticals Pvt Ltd	1,75,000/-
Phoenix Pharmaceuticals LLC, USA	8,40,000/-
Zim Laboratories	1,67,000/-
Astec Life Sciences	1,50,000/-
Astec Life Sciences	1,00,000/-
Balakrishna Industries	1,50,000/-
Pest Control India	1,25,000/-
Loreal India Ltd	3,00,000/-
Astec Life Sciences	1,00,000,/-
Pest Control India	1,15,000/-
Oceanic Laboratories P Ltd.	30,000/-
Satallite Pharma P Ltd	1,00,000/-
Astec Life Sciences	1,20,000/-
Agenta Pharma Ltd	3,47,000/-
Total Income Generated	**2,40,12,500**

24. Faculty selected nationally / internationally to visit other laboratories / institutions/ industries in India and abroad

- Dr. G.U.Chaturbhuj: October 2013-September 2014 as UGC Raman Post-Doctoral Fellow, On Indo-US Obama Singh Knowledge Initiative 2012
- Dr. V.N.Telvekar: 2010-11, Post-Doctoral fellow, St. Johns University, USA

25. Faculty serving in National committees

Faculty Name	Committee	Designation
Prof. A.R. Juvekar	Pharmacy Council of India	Inspector
Prof. P.R. Vavia	Pharmacy Council of India	Inspector (for Inspection of Institutions)
Prof. P.R. Vavia	AICTE	Inspector (for Inspection of Institutions)
Prof. P.R. Vavia	DSIR	Expert Member (for inspection of industrial R & D facility)
Prof. V.B.Patravale	Association of Pharmaceutical Teachers of India – Women Forum	Convener
Prof. V.B.Patravale	Controlled Release Society Inc – Indian Chapter	Chairperson-Scientific Committee Vice-President
Prof. P.V. Devarajan	LIC for affiliation of Pharmacy Colleges, University of Mumbai	Chairman
Prof. P.V. Devarajan	Drug Information Association, India	Member Advisory Council
Prof. P.V. Devarajan	DBT –SBIRI project	Expert Committee Member
Prof. P.V. Devarajan	DST Women Scientist Scheme (WOS-A)	Member- Subject Expert Committee (SEC)-Chemical Sciences
Prof. P.V. Devarajan	Drug Information Association, India	Member Advisory Council

International Committees

Faculty Name	Committee	Designation
Prof. P.R. Vavia	Asian Oceanic Cyclodextrin League	Member, International Advisory board
Prof. P.R. Vavia	Royal Pharmaceutical Society of Great Britain	Member, (Hon. Membership)
Prof. P.V. Devarajan	Controlled Release Society (CRS), Inc, USA	Board Member
Prof. P.V. Devarajan	CRS- Young Scientist Mentor Protégé committee	Chair
Prof. P.V. Devarajan	Controlled Release Society, USA	Member Board of Scientific Advisors
Prof. P.V. Devarajan	Controlled Release Society, USA	Member Outstanding Research Paper Committee DDTR Journal
Prof. P.V. Devarajan	Controlled Release Society, USA	Cochair Outstanding Research Paper Committee DDTR Journal

Editorial Boards

Faculty Name	Committee	Designation
Prof. K.G. Akamanchi	Indian drugs	Member of Editorial Board
Prof. K.G. Akamanchi	Indian Journal of Pharmaceutical Sciences	Member of Editorial Board
Prof. V.B.Patravale	Journal of Nanoscience and nanotechnology	Associate editor
Prof. V.B.Patravale	International Journal of Pharma Bioscience and Technology	Editor
Prof. V.B.Patravale	Bombay Technologist, in-house Journal of Institute of Chemical Technology	Editor
Prof. V.B.Patravale	CRS Newsletter	Editor
Prof. P.V. Devarajan	Bionano Frontiers	Editorial Board Member
Prof. P.V. Devarajan	Indian Drugs	Editorial Board Member
Prof. P.V. Devarajan	Indian Journal of Pharmaceutical Sciences	Editorial Board Member

26. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs). Nil

27. Student projects

• Percentage of students who have done in-house projects including inter-departmental projects:

UG: 100%**, Masters:** 100%, **PhD:** 64.9%

• Percentage of students doing projects in collaboration with other universities industry / institute: 35.08%

28. A wards / recognitions received at the national and international level by Faculty

Faculty	Award	Year
Prof. K. G. Akamanchi	UGC-Visiting Fellow - Sardar Patel University, Vallabh Vidyanagar, Gujarat.	2013
Prof. K. G. Akamanchi	Appointed as Independent Director on the Board of Aarti Drugs Ltd.	2013
Prof. P. D. Amin	Indian Women Scientist in Chemical Industry News, 2011	2011
Prof. P. D. Amin	Fellow of Maharashtra Academy of Science.	2014
Prof. G. U. Chaturbhuj	UGC Raman Fellowship- for Post-Doctoral Research from Northeastern University, Boston, USA.	2013
Prof. M. S. Degani	Felicitated by Indian Chemical Council as Woman Scientist in March 2012	2012
Prof. M. S. Degani	Fellow of Maharashtra Academy of Sciences, 2012	2012
Prof. P.V. Devarajan	AAiPS Distinguished Educator and Researcher Award	2011

Prof. P.V. Devarajan	Industrial Research Award for Women Scientists	2011
Prof. P.V. Devarajan	Professor C. J. Shishoo Award. Research in Pharmaceutical Sciences, conferred by the Association of Pharmaceutical Teachers of India, 2013	2013
Prof. P.D. Jain	Ramanujan Fellowship from DST, Govt. of India	2011
Prof. P.D. Jain	Young Associate of Maharashtra Academy of Sciences for the contribution in Engineering and Technology, 2012 DAE Young Scientist Research Award, Department of Atomic Energy, Govt. of India, 2012 BioCARe Research Award for Women Scientist, DBT, 2013	2012
Prof. A. R. Juvekar	Awarded Milstein award 2014 from International Cytokine and Interferon Society (ICIS), Bethesda, USA.	2014
Prof. V. B. Patravale	Fellow of Maharashtra Academy of Sciences award (2011)	2011
Prof. V. B. Patravale	BVDUPCP- Pharmacy Teacher of the year Award 2012	2012
Prof. V. B. Patravale	Grant Awardee – 'Nanovaccine for Brucellosis using Green Technology'; Grand Challenges Explorations Grants Round 11, Bill & Melinda Gates Foundation, (2013)	2013
Prof. V. B. Patravale	Dr. P. D. Patil Best Pharmaceutical Scientist of the year Award – 2014	2014
Prof. V. B. Patravale	Association of Pharmaceutical Teachers of India (APTI), Maharashtra State (2014)	2014
Prof. V. B. Patravale	Vividhlaxi Audyogik Samshodhan Vikas Kendra (VASVIK)	2014
Prof. V. B. Patravale	Apex Committee's Smt. ChandabenMohanbhai Patel Industrial Research Award for Women Scientists – 2013 (2015)	2013
Prof. V. N. Telvekar	The "Better Opportunities for Young Scientists in Chosen Areas of Science & Technology (BOYSCAST)" fellowship	2014
Prof. P. R. Vavia	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	2014

Doctoral Students

1. Second prize for oral presentation in preclinical section for presentation entitled "Role of Carbohydrate based Ligands on the cytotoxicity and cell uptake of Doxorubicin nanoformulations", Sandhya Pranatharthiharan, Mitesh D. Patel, Prof. Padma V. Devarajan at 6th International annual conference South Asian Chapter of American College of Clinical Pharmacology,21st -22nd April, 2013, Mumbai.
2. Second prize for poster presentation in preclinical section for presentation entitled "PES Lopinavir nanoparticles: A promising approach to target multiple HIV reservoirs", Bhagyashree Dalvi,

Derajram Benival and Prof. Padma V. Devarajan at 6th International annual conference South Asian Chapter of American College of Clinical Pharmacology,21st -22nd April, 2013, Mumbai.

3. Second prize for poster presentation in preclinical section for presentation entitled "Genotoxicity and Mutagenicity evaluation of Buparvaquone Solid Lipid Nanoparticles",MaheshkumarSoni, Shelkar Nilakash, Bhagat Sharad, Gaikwad Rajiv, Samad Abdul, Prof. Padma V. Devarajan, Vanage Geeta at 6th International annual conference South Asian Chapter of American College of Clinical Pharmacology,21st -22nd April, 2013, Mumbai.
4. Second prize for poster presentation in first International Conference, Disso India 2013 for poster entitled "Modified USP Dissolution Apparatus II for Dissolution Testing of Buccal Tablets of Rivastigmine Hydrogen Tartrate" Vilas Malode, Prof. Padma V. Devarajan at the Lalit,3-4 May 2013, Mumbai.
5. Second prize for poster-Chawla S.; Devarajan P.V.Nano diagnostic approach for blood group detection in 7th International Conference organized by South Asian Chapter of American College of Clinical Pharmacology on "Clinical Pharmacology-Translational Research: Patient to Public Health",17-20 April 2014, held at Nehru Centre, Worli, Mumbai.
6. Consolation prize for poster-Sandhya Pranatharthiharan; Padma.V. Devarajan, 'Carbohydrate anchored stealth doxorubicin nanoformulations with improved efficacy in fibrosarcoma mouse model' in Indo-US Workshop on nanoengineering in medicine, Dec17-19, 2014 at AIIMS, Delhi.
7. Dr. R. S. Satoskar Award for second prize for poster in preclinical section - Prashant Mande, Sagar Bachhav, Padma V. Devarajan, 'Curcumin ESA-SMEDDS – Bioenhanced response in CFA-induced arthritis' 8th International Conference organized by South Asian Chapter of American College of Clinical Pharmacology on "Clinical Pharmacology-Translational Research: Patient to Public Health", 24-25 April 2014, held at Nehru Centre, Worli, Mumbai.
8. S.S. Chawla, A.C. Gorakhshakar, K.Ghosh, P.V.Devarajan; Best international poster award for 'Development of surface anchored silver nanoparticles: A Novel and easy blood detection system based on nanotechnology, Biomaterials International, Taiwan, June 2015.
9. Dr. R. S. Satoskar Award of second prize for poster in preclinical section for poster titled 'Curcumin ESA-SMEDDS- Bioenhanced response in CFA-induced arthritis' presented by Prashant Mande*, Sagar Bachhav, Padma V. Devarajan at 8th International Conference on "Clinical Pharmacology-Translational Research: Patient to Public Health" organized by South Asian Chapter of American College of Clinical Pharmacology, held at Nehru Centre, Worli, Mumbai, 24-25 April 2015.
10. Best International Poster Award for poster titled 'Development of surface anchored silver nanoparticles: A Novel and easy blood detection system based on nanotechnology' presented by

S.S. Chawla*, A.C. Gorakhshakar, K. Ghosh, P.V. Devarajan at Biomaterials International organized by Chang Gung University, held at Chang Gung University, Taiwan, 1-5 June 2015

11. Ketan Mahajan, Preeti Wavikar, Nilesh Dhakar, Alok Shukla; Won 2nd Prize in BEST ABLE 2015 (Biotechnology Entrepreneurship Student Teams) sponsored by The Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India and managed and administered by Association of Biotechnology Led Enterprises, ABLE – India, Bangalore, India, November 2015
12. Ketan Mahajan, Won 1st prize (member of winner team) in Novartis Biotechnology Leadership Camp (Novartis BioCamp 2015) organized by Novartis, India, July 2015
13. Nitin Jadhav, Nisha Yadav, Mrunal Patil, Mahendra Prajapati, Avinash Chaudhary; Won First prize in INDIA BIO 2015, organized by the Department of Information Technology, Biotechnology and Science & Technology, Government of Karnataka, Vision Group on Biotechnology, MM Activ Sci-Tech Communications (KITBT)- India, Bangalore, February 2015
14. Nitin Jadhav, Nisha Yadav, Mrunal Patil, Mahendra Prajapati, Avinash Chaudhary; Awarded the title of "Unique Idea" by Indian Institute of Technology, Gandhinagar, November 2014
15. Nitin Jadhav, Nisha Yadav, Mrunal Patil, Mahendra Prajapati, Avinash Chaudhary; Won 2nd prize in BEST ABLE 2014 (Biotechnology Entrepreneurship Student Teams) sponsored by The Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India and managed and administered by Association of Biotechnology Led Enterprises, ABLE – India, Bangalore, India, October 2014
16. Ketan Mahajan, Selected as participant among (30 research students worldwide) for Merck Sereno Innovation Cup 2014 to present Novel Research Business Plan organised by Merck Sereno Inc., Darmstadt, Germany, July 2014
17. Ketan Patel, Mayank Patel, Jasmin Monpara, Subhash Ingle, Dhawal Chobisa; Won 3rd Prize in BEST ABLE 2013 (Biotechnology Entrepreneurship Student Teams) sponsored by The Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India and managed and administered by Association of Biotechnology Led Enterprises, ABLE – India, Bangalore, India, November 2013
18. Sharad Darandale, Won 3rd Prize in Novartis Biotechnology Leadership Camp (Novartis BioCamp 2013) organized by Novartis, India, July 2015
19. Dishan Shan and Sharad Chormale, Won National Pharmacy Quiz Competition 64th Indian Pharmaceutical Congress, Chennai, December 2012
20. Sharad Darandale, Winner of Johnson and Johnson Innovation Cup, organised by Johnson and Johnson Healthcare Pvt. Ltd, Mumbai, India, 2013

21. Smita Pawar, Winner of Johnson and Johnson Innovation Cup, organised by Johnson and Johnson Healthcare Pvt. Ltd, Mumbai, India, 2013
22. Mayank Patel, Selected as ESONN CEFIPRA Fellow (European School on Nanosciences and Nanotechnologies), Grenoble, France, September 2015
23. Lalit Vora, Received Amgen Research Student Travel Award from AAPS National Biotechnology Conference, San Francisco, USA, June 2015
24. Mayank Patel, Awarded Newton-Bhabha PhD Placement Programme Fellowship by Ministry of Science and Technology, India and British Council, October 2015
25. Ketan Patel, Selected by BASF for attending BASF Pharma days - 2012 at Heidelberg, Germany, 2012
26. Atul Raut, Won Best Poster Award 66th Indian Pharmaceutical Congress, Hyderabad, January 2014
27. Preeti Wavikar, Best Oral Presentation Award in International Symposium on New Perspectives in Modern Biotechnology, Puducherry, India, 2015
28. Jamiluddin Fakhruddin, Won Best Poster Award 65th Indian Pharmaceutical Congress, Delhi, India, December 2013
29. Nitin Jadhav, Won Best Poster Award 64th Indian Pharmaceutical Congress, Chennai, India, December 2012
30. Ketan Patel, Won Best Oral Presentation Award, 64th Indian Pharmaceutical Congress, Chennai, India, December 2012
31. Ketan Patel, Won Best Oral Presentation Award, South Asian chapter of American College of Clinical Pharmacology (ACCP), Mumbai, India 2013
32. Best poster Award at the ICMR sponsored 'National conference on Nanotechnology in drug delivery research: Innovations, challenges and opportunities' for poster entitled "Generic Oral Aprepitant nanoformulation: A Patent Non-Infringing Approach" at NMIMS, Mumbai, India, October, 2015 (Bhise K.)
33. Best Poster Award at the "2nd International Conference on Nanotechnology Based Formulations-NanoPharmaceuticals" for poster entitled "Artemether-Lumefantrine loaded Nanostructured Lipid Carriers (NLC) for treatment of cerebral malaria" organized by Select Biosciences India Private Limited held at Hyderabad, India, September 2015 (Prabhu P.)
34. OMICS International Best young researcher award - 2015 for presenting speech entitled "Targeted micelles of curcumin: Strategy for enhanced brain uptake" in 4th International conference and exhibition on 'Neurology and Therapeutics' Rome, Italy, July 2015 (Desai P.)
35. Third Prize for oral Presentation in "Preclinical Category" for work on " Nanostructured Lipid Carriers (NLC) of Artemether-Lumefantrine combination for oral malaria therapy" at the Eighth

International Annual Conference on "Translational Clinical Pharmacology Research in Drug Development" organised by South Asian Chapter of American College of Clinical Pharmacology held at Nehru Auditorium, Worli, Mumbai, India, April 2015 (Prabhu P.)

36. The Budding QbD Scientist Award - 2015 for the paper entitled, "QbD Based Development of Fenofibrate Nanosuspension: A Non-Infringing Approach" at the QbD in Pharma Development World Congress 2015, Chandigarh, India, April 2015 (Mirani A, Gite S.)
37. Ranbaxy Science Scholar Award - 2014 in the field of Pharmaceutical Sciences, Ranbaxy Science Foundation, India, March 2015 (Desai P.)
38. First prize for oral presentation and poster entitled, “Multifunctional nanocomposites of curcumin for neurodegenerative disorders” at Forteenth International Symposium on Advances In Technology And Business Potential of New Drug Delivery Systems, Mumbai, India, February 2015 (Desai P.)
39. Young Innovator in Bioprocessing Award (2nd Place) for research work entitled, “Bioenhanced ellagic acid solid solution: a systematic green approach” at Bioprocessing India 2014 conference, Mumbai, India, December 2014 (Desai P.)
40. Excellent poster award for topic entitled,“ Pharmaceutical Co-Crystal Of Atovaquone: A Systemic Approach Towards Solubility Enhancement” at 5th Indo-Japanese International Joint Symposium on Overcoming Intractable Infectious Diseases Prevalent in Asian Countries, Tokyo, Japan September 2014 (Desai P.)
41. Excellent poster award for topic entitled, “ Evaluation Of Punicalin And Punicalagin As GP 120-CD4 Binding Inhibitor: In Silico & In Vitro Screening” at 5th Indo-Japanese International Joint Symposium on Overcoming Intractable Infectious Diseases Prevalent in Asian Countries, Tokyo, Japan September 2014 (Mirani A.)
42. Excellent poster award for topic entitled, “Comparison of Phytopolyphenols as gp120-CD4 Binding Inhibitor: In Silico & In Vitro Screening” at 5th Indo-Japanese International Joint Symposium on Overcoming Intractable Infectious Diseases Prevalent in Asian Countries, Tokyo, Japan September 2014 (Gite S.)
43. First prize for poster entitled, “Green approach towards bioenhanced curcumin: process analytical technology (PAT) enabled scale up studies of curcumin solid solution using hot melt extrusion” at 1st International Conference on Industrial Pharmacy (ICIP) 2014, Kuantan, Malaysia, August 2014 (Desai P.)
44. Selected in top 6 research students amongst the entries from all over the world for Merck Serono Innovation Cup 2014, Darmstadt, Germany, July 2014 (Desai P.)

45. Agrawal A. has received the prestigious “Prime Minister’s Fellowship” for doctoral Research. This is a joint initiative of CII, Science & Engineering Research Board (SERB) and Sahajanand Medical Technologies Pvt. Ltd. as an Industry partner.
46. First prize for poster entitled, “SANS investigation of a micellar drug delivery system formed by a novel antioxidant- lipid bioconjugate” at Conference on Neutron Scattering 2014", Pune, India, February 2014 (Desai P.)
47. First prize for poster entitled, “In vivo investigation of anticancer activity and treatment associated toxicity of tamoxifen-loaded cationic lipomer” at 65th Indian Pharmaceutical Congress, Delhi, India, December 2013 (Desai P.)
48. Veneto Nanotech Prize (Winner of the second edition of the Cadini Prize) 2013 for the poster entitled "Influence of Newly Synthesized Mono-Guanidine Heterolipid based Cationic Nanocarriers in Treatment of Melanoma Tumor in C57BL/6 mice" at the NanotechItaly 2013, Italy, November 2013. (Prabhu R).
49. Selected amongst top 20 teams across India for BEST ABLE 2013 (Biotechnology Entrepreneurship Student Teams) sponsored by The Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India and managed and administered by Association of Biotechnology Led Enterprises, ABLE – India, Bangalore, India, October 2012 (Desai P., Vyas S., Jain S., Bhuptani R., Mirani A.)
50. Best Poster Award for poster entitled, “Super Critical extraction method optimization of Seabuckthorn (SBT) berry oil B.O: Exploiting its role in anti-ageing” at The Omics group of conference, Hyderabad, India, September 2013 (Mirani A).
51. First prize for poster (Drug Delivery System Section) entitled, “Impact of drug loading on the anti Parkinsonism effects of lipid formulation of curcumin” at The South Asian Chapter of American College of Clinical Pharmacology: 6th International Conference on Innovation in 21st Century: Clinical Pharmacology in Current and Future environment, Mumbai, India, April 2013 (Fernandes C.)
52. Second prize for poster (Drug Delivery System Section- shared) entitled, “Bio-enhanced Atovaquone: Comparison of solid dispersion and nanosuspension” at The South Asian Chapter of American College of Clinical Pharmacology: 6th International Conference on Innovation in 21st Century: Clinical Pharmacology in Current and Future environment, Mumbai, India, April 2013 (Mirani A.)
53. Second prize for poster (Drug Delivery System Section- shared) entitled, “Solid lipid nanoparticles of Arteether/Ellagic acid: A novel combination therapy for treatment of malaria” at The South Asian Chapter of American College of Clinical Pharmacology: 6th International Conference on

Innovation in 21st Century: Clinical Pharmacology in Current and Future environment, Mumbai, India, April 2013 (Kadwadkar N.)

54. Second prize for poster (Preclinical Section- shared) entitled, “Selective Uptake of Nanostructured Lipid Carriers by Malaria Infected Red Blood Cells” at The South Asian Chapter of American College of Clinical Pharmacology: 6th International Conference on Innovation in 21st Century: Clinical Pharmacology in Current and Future environment, Mumbai, India, April 2013 (Jain S.)
55. Prize for poster entitled, “Curcumin-Celecoxib Dual Drug Loaded Ph-Sensitive Nanoparticulate Combination Therapy: A Novel Approach For The Treatment Of Inflammatory Bowel Disease” at Thirteenth International Symposium on Advances In Technology And Business Potential of New Drug Delivery Systems, Mumbai, India, January 2013 (Dalapathi G.)
56. First prize for poster entitled, “Discrepancy in therapeutic efficacy of nanoformulation against different breast cancer cell lines” at International Symposium On Drug Discovery For Infectious Diseases And Cancer, Mumbai, India, January 2013 (Shete H.)
57. Selected amongst top 20 teams across India for BEST ABLE 2013 (Biotechnology Entrepreneurship Student Teams) sponsored by The Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India and managed and administered by Association of Biotechnology Led Enterprises, ABLE – India, Bangalore, India, October 2012 (Desai P., Fernandes C., Vyas S.)
58. First prize for poster entitled, “Bioenhancement of Curcumin Using Hot Melt Extrusion Technology: Formulation Development, In Vitro Characterization And In Vivo Pharmacokinetic Studies” and thus opportunity for podium presentation at Drug Delivery India 2012 - Innovations In Pharmaceutical & Manufacturing Sciences, Hyderabad, India, February 2012 (Desai P.)
59. First prize for poster entitled “Development of mathematical model to predict release of poorly water soluble drug from tamarind seed polysaccharide matrices” at Twelth International Symposium on Advances in Technology and Business Potential of New Drug Delivery Systems, Mumbai, India, February 2012 (Patale R., Desai P.)
60. Award for poster entitled “Engineering Nanostructured Lipid Carriers Of Genistein: Statistical Optimization” at Twelth International Symposium on Advances in Technology and Business Potential of New Drug Delivery Systems, Mumbai, India, February 2012(Pai A., Swami M.)
61. Award for poster entitled “New Uses For Old Drugs: Clitrimazole Oral Nanoemulsion For Malaria” at Twelth International Symposium on Advances in Technology and Business Potential of New Drug Delivery Systems, Mumbai, India, February 2012 (Borhade V., Shete H.)

62. First prize for poster entitled “Freeze Drying : Exploring Potential In Development Of Orodispersible Tablets Of Sumatriptan Succinate” at 63rd Indian Pharmaceutical Congress, Bangaluru, India, December 2011 (Pandharipande P., Dalapathi G., Desai P.)
63. Award for poster entitled, “Atovaquone Nanosuspension For Intravenous Delivery: Toxicity Assessment, Pharmacokinetics, Tissuedistribution And In Vivo Antimalarial Efficacy Studies” at INDO-US Joint Symposium on Nanomedicine: Prospects and Challenges, Mumbai, India, November 2011 (Borhade V. Shete H.)
64. Gandhian Young Technological Innovation Award/Appreciation 2015' based on work related to the development of 'Rapid Non-invasive diagnostics kits for diabetic patients’, 2015; Research student awarded at Rashtrapati Bhavan by Honourable Dr. Raghunath Mashelkar on 7th March, 2015.
65. Received 3rd Prize for 7th edition of BEST-India (Biotechnology Entrepreneurship Student Teams) based on work related to the development of “Pyrogen Detection Kit” on 3rd November, 2015.
66. Awarded Best oral presentation award in preclinical section for presentation entitled “Couroupita guianensis extract dampens postprandial glucose excursion in diabetic rats by inhibiting α-glucosidase and α-amylase enzyme activity” at 6thInternational annual conference South Asian Chapter of American College of Clinical Pharmacology,21st -22nd April 2013, Mumbai.
67. Awarded Best poster award in preclinical section for presentation entitled “Antiepileptic efficacy of Luteolin: Assessment in animal models of Epilepsy” at 6th International annual conference South Asian Chapter of American College of Clinical Pharmacology, 21st -22nd April 2013, Mumbai.
68. Awarded Best poster award in preclinical section for presentation entitled “Evaluation of lipase inhibitory activity of various Orlistat formulations and excipients” at 65th Indian Pharmaceutical congress, 20-22nd December 2013, Delhi.
69. Bagged second prize for oral presentation award in preclinical section for presentation entitled “Bioactive fraction of Saraca indica prevents cataract development and progression in Streptozotocin-induced diabetic rats” at 7th International annual conference South Asian Chapter of American College of Clinical Pharmacology, 19th -20th April 2014, Mumbai.
70. Awarded best oral presentation award for presentation entitled “Antiepileptogenic and anti-oxidant effect of Terpinen-4-ol in pentylenetetrazole induced kindling model” at 8th International Annual Conference South Asian Chapter of American College of Clinical Pharmacology, 22nd April – 25th April 2015, Mumbai.

29. Seminars/ Conferences/Workshops organized and the source of funding (national

International) with details of outstanding participants, if any.

Conference/Symposia/ Workshop	Title	State/ National/ International	Duration	Source of Funding
Conference	Indo-US Symposium on Nanomedicine: Prospects and Challenges	Institute of Chemical Technology, Mumbai	2011, Two days	IUSSTF
University of Pune sponsored workshop	Modern Analytical tools in Quality Control of Phytopharmaceuticals	National	July, 2013	University of Pune
International workshop	Research writing skills "Publish or Perish"	International	12-13th Nov, 2013	
Seminar	UKIERI Seminar - Green Processing Technologies forPoorly Soluble Drugs	National	9thJanuary 2014	UKIERI
Lecture	Multi Colour Imaging in Confocal Microscopy' by Dr. Amit Kumar Bhattacharya	National	February 2014	Industry
Seminar	'Careers in Clinical Research' by Dr.Shekhar Dawkhar	National	February 2014.	
Workshop	Honing Mentoring Skills -- A Holistic Approach, Sessions I and II, Trainer: Mrs. Lakshmi Raju	National	May 5-9 and July 3-8, 2014	TEQIP
Workshop	Stress Management workshop, Trainer: Mrs. Lakshmi Raju	National	June 18-24, 2014 (3 sessions)	TEQIP
Workshop	Writing and presentation skills for the PG students of DPST	National	June-July, 2014 (10 sessions)	TEQIP
Seminar	'Scientific Writing Skills' by Achievers League	Bombay Technologist ,Institute of Chemical Technology, Mumbai	September , 2014	Industry
Lecture	Merck Excipients and their Applications in Pharmaceuticals' by Merck Ltd.,	Institute of Chemical Technology, Mumbai	December 2014	Industry

Conference	14th International Symposium on Advances in Technology and Business Potential of New Drug Delivery Systems, Controlled Release Society	National	February 2015	
Seminar and Workshop	Organized Seminar and Workshop on ***'Recent Strategies in CNS Drug Development'*** on under the Technical Education Quality Improvement Programme organized by Department of Pharmaceutical Science & Technology, Institute of Chemical Technology.	ICT	31st October and 1st November , 2012	
ADMA Regional Symposium	"Concept of GLP and importance of analysis of Ayurvedic raw materials and finished products"	Mumbai	April 2012	
Conference	International Symposium on Drug Discovery for Infectious Diseases and Cancer	ICT, Mumbai	January 2013	CSIR, UGC and Industry
Disso India2013 Preconference workshop	Pharmaceutical Dissolution Technology: A Review	International	2013, one day	SPDS
Conference	Regulatory Roadmap For Pharmaceuticals In Global Market	National	2012, One day	TEQIP
Seminar cum workshop	Recent Strategies In CNS Drug Development	National	2012, two days	TEQIP
Seminar cum workshop	Advanced Scientific Writing Workshop, Winter-2013	National	2012, half day	UGC-CCAS
Workshop	Bayer (Under Scholarship Program and Guest Lecture Sessions)		) 21st Dec. 2012.	
Conference	Seminar cum-workshop on "Recent Strategies in CNS drug development at Institute of Chemical Technology, Mumbai	National	31st Octomber -1st November 2012	

Lecture	Lecture series by Prof. Krishnapriya Mohanraj on, "chemistry a new understanding" For M.Tech students of Department of Pharmaceutical Sciences and Technology under the aegis of TEQIP program,	Institute of Chemical Technology, Mumbai	Jan to March 2013	TEQIP
Workshop	Workshop on "preparing for aptitude tests- Finihing School" for masters and Ph.D. students of Department of Pharmaceutical Sciences and Technology under the aegis of TEQIP program	Institute of Chemical Technology, Mumbai	11-14th Feb 2013	TEQIP
Seminar by Prof. A. B. Pandit	Seminar by Prof. A. B. Pandit on " Scientific writing"	Bombay Technologist, ICT, Mumbai	5th December 2013	TA, ICT
TEQIP National Seminar	TEQIP National Seminar On "Regulatory Roadmap for Pharmaceuticals in Global Markets"	Institute of Chemical Technology, Mumbai	29th November 2012.	TEQIP

30. Code of ethics for research followed by the departments:

Institute website has code of ethics which is followed by all the departments.

31. Student profile programme-wise

Name of the Programme	Applications received	Selected		Pass Percentage					
		Male	Female	Percentage of Passing	Male	Female	Fail	ATKT	Total Pass
B. Pharm (2011-2012)	241	10	18						
2011-2012				86.21	2 (fail)	2 (ATKT)	2	2	25
2012-2013				93.10	1	1	2	-	27
2013-2014				100.00	-	-	-	-	29
2014-2015				100.00	-	-	-	-	29
B. Pharm (2012-2013)	296	05	19						
2012-2013				92.59	1 (fail)	-	1	1	25

					1(ATKT)				
2013-2014				96.00	1 (fail)	-	-	1	24
2014-2015				100.00	-	-	-	-	24
B. Pharm (2013-2014)	165	06	21						
2013-2014				96.30	-	1 (ATKT)	0	1	26
2014-2015				92.86	1 (fail)	1 (ATKT)	1	1	26
B. Pharm (2014-2015)	Admission through DTE	10	18						
2014-2015				85.71	3 (ATKT)	1 (ATKT)	0	04	24
B. Pharm (2015-2016)	Admission through DTE	11	19						
B. Tech Pharma (2011-2012)	584	10	08						
2011-2012					1 (fail)	1 (ATKT)	1	1	17
2012-2013					-	-	-	-	18
2013-2014					-	1 (fail)	1	-	18
2014-2015					1 (ATKT)	-	-	1	17
B. Tech Pharma (2012-2013)	745	13	05						
2012-2013					1(ATKT)	-	-	1	17
2013-2014					1(ATKT) 1(fail)	-	1	1	18
2014-2015					1(ATKT) 1(fail)	-	1	1	18
B. Tech Pharma (2013-2014)	615	07	11						

2013-2014					1 (fail) 2 (ATKT)	-	1	2	15
2014-2015					-	-	-	-	18
B. Tech Pharma (2014-2015)	Admission through DTE	11	06						
2014-2015					1 (fail) 1 (ATKT)	1 (fail) 1 (ATKT)	2	2	13
B. Tech Pharma (2015-2016)	Admission through DTE	14	05						
M. Pharm (2011-2012)	380	10	07						
2011-2012 (MNP)				100.00	-	-	-	-	08
2011-2012 (Pharm. Chem)				75.00	2 (ATKT)	-	-	2	06
2011-2012 (Pharmaceutics)				100.00	-	-	-	-	20
M. Pharm (2012-2013)	222	10	08						
2012-2013 (MNP)				100.00	-	-	-	-	14
2012-2013 (Pharm. Chem)				93.75	1 (ATKT)	-	-	1	15
2012-2013 (Pharmaceutics)				100.00	-	-	-	-	24
M. Pharm (2013-2014)	201	09	07						
2013-2014 (MNP)				100.00	-	-	-	-	19
2013-2014 (Pharm. Chem)				100.00	-	-	-	-	06
2013-2014 (Pharmaceutics)				100.00	-	-	-	-	18
M. Pharm (2014-2015)	206	08	09						

2014-2015 (MNP)				77.78	2 (ATKT)	-	-	2	07
2014-2015 (Pharm. Chem)				100.00	-	-	-	-	07
2014-2015 (Pharmaceutics)				100.00	-	-	-	-	12
M. Pharm (2015-2016)	196	12	06						
M. Tech Pharma (2011-2012)	13	1	-						
2011-2012				100.00	-	-	-	-	01
M. Tech Pharma (2012-2013)	10	4	-						
2012-2013				60.00	2 (ATKT)	-	-	2	3
M. Tech Pharma (2013-2014)	14	3	1						
2013-2014				71.43		1 (fail) 1 (ATKT)	1	1	05
M. Tech Pharma (2014-2015)	21	1	3						
2014-2015				100.00	-	-	-	-	04
M. Tech Pharma (2015-2016)	30	2	2						
Ph. D. (Tech.) (2011-2012)	320	19	08						
Ph. D. (Tech.) (2012-2013)	209	17	12						
Ph. D. (Tech.) (2013-2014)	134	22	11						
Ph. D. (Tech.) (2014-2015)	179	18	12						

32. Diversity of students

Name of the Programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
Master in Pharmacy				
2011-12				
17	11.76	41.18	47.06	-
2012-13				
18	5.55	66.66	27.77	-
2013-14				
17	17.64	47.06	35.29	-
2014-15				
17	0.0	52.93	47.06	
M. Tech Pharma				
2011-12				
1	0.0	100.0	-	-
2012-13				
4	0.0	100.0		-
2013-14				
4	0.0	100.0		-
2014-15				
4	0.0	100.0	-	-
PhD Tech				
2011-2012				
31	50	100	0	0
2012-13	33.33	87.87	9	
2013-2014	16.67	66.67	16.6	
24				
14-15	12.5	99.37	4.166	
PhD tech Inegrated				
2011-2012				
1	100	0	0	0
2012-13	NA	NA	NA	NA
2013-14	100	0	0	0
14-15	NA	NA	NA	NA

33. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Name of the examination	Number of students who have cleared the exam
GPAT	36

GATE	4

34. Student progression

Student progression	Percentage against enrolled		
	Academic year	Number	%
UG to PG	2011-2012	28/53	52.83
	2012-2013	17/33	51.51
	2013-2014	29/41	70.73
	2014-2015	26/52	50
PG to M.Phil.	2011-2012	-	-
	2012-2013	-	-
	2013-2014	-	-
	2014-2015	-	-
PG to Ph.D.	2011-2012	13/33	39.39
	2012-2013	5/19	26.31
	2013-2014	2/23	8.69
	2014-2015	0/21	0
Ph.D. to Post-Doctoral	2011-2012	0/21	0
	2012-2013	0/14	0
	2013-2014	2/21	9.52
	2014-2015	0/6	0
Employed Campus selection Other than campus recruitment	2011-2012	15/53	28.30
	2012-2013	13/33	39.39
	2013-2014	6/41	14.63
	2014-2015	10/52	19.23
Entrepreneurs	2011-2012	2/53	0.037
	2012-2013	0/33	0
	2013-2014	3/41	7.32
	2014-2015	0/52	0

35. Diversity of staff

Percent of Faculty who are graduates	Bachelors	Masters	PhD
Of the same University	85%	100%	92%
From other university within the state	15%	-	8%
From universities from other states	-	-	-
Universities outside the country	-	-	-

36. **Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period:** 1

37. Present details of departmental infrastructural facilities with regard to

a) Library: **Common Library for the Institute**

b) Internet facilities for staff and students: **Available on campus**

c) Total number of class rooms: **6 special lecture rooms**

d) Class rooms with ICT facility: **all**

e) Students' laboratories: **6**

f) Research laboratories**: 16**

38. Number of doctoral students

a) from the host institution/university: **46**

b) from other institutions/universities: **94**

39. Number of post graduate students getting financial assistance from the university.
11 Masters's students under TEQIP

40. **Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.** NA

41. Does the department obtain feedback from

i) Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? **Yes. Teaching mehotdology is revised and upgraded based on the feedback. Curriculum revision is also based on feedback**

ii) Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? **Yes. Faculty counselled if required. Curriculum revised if required.**

iii) Alumni and employers on the programmes offered and how does the department utilize the feedback? **Yes. Changes in syllabus and teaching methods.**

42. **List the distinguished alumni of the department**

- Dr. John Kapoor
- Dr. A.V.Rama Rao
- Dr. Shirish Modi
- Dr. K. Anji Reddy
- Prof. M.R.Baichwal
- Dr. R.P.Iyer
- Dr. Dhiren Thakker
- Nitin Deshmukh

43. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.
Academic Year 2011-2012

Sr.	Date	Fellowship	Distinguished Speaker/Affiliation	Title of Lecture
1	October 1, 2011	Foundation day alkyl amines – uict foundation day speaker endowment lecture	Dr. Sanyog Jain, Associate Professor, Centre for Pharmaceutical Nanotech-nology, Dept. of Pharm-[aceutics,National Institute of Ph-armaceutical Education and Research (NIPER), SAS Nagar (Mohali) , Punjab-160062	Design, Synthesis and Biological Evaluation of Novel Multifunctional Carbon Nanotubes Based "Smart" Drug Delivery Platform
2	March 17, 2012	Themis chemicals ict diamond jubilee dist-inguished fellow in pharmaceutical science – lecture	Professor Dr. P. S. Ramani, Senior Consultant Neurospinal Surgeon, Lilavati Hospital & Rese-arch Centre, Mumbai. INDIA	From Mixture to Mutation - The March of Medicine
3	April 27, 2012	Professor S. K. Pradhan endowment lectures	Dr. Susheel Durani, Professor, Department of Chemistry IIT Bombay, Powai, Mumbai – 400076	Chemical Interactions and Biomolecular Ontogeny: The Puzzles of Stereochemistry and Symmetry in Protein Structure
4	April 27, 2012	Professor S. K. Pradhan endowment lectures	Professor Goverdhan Mehta, FNA, FRS National Research Professor Lilly Grantee and Jubilant - Bhartia Chair, School of Chemistry, University of Hyderabad, Hyderabad 500046	Lecture 1: Celebrating Chemistry for a Better World: Lessons and Inspiration from Organic synthesis Lecture 2: Harnessing Synergy Between Natural Products, Organic Synthesis and Drug Discovery for Human Wellbeing
5	March 29, 2012	Professor (Mrs) M.R. Baichwal distinguished fellow in pharmaceutical sciences" lecture,	Dr. Shobhona Sharma Professor, Department of Biological Sciences, TIFR, Mumbai	Malaria Infected Red Cells: Can We Target Them
6	March 29, 2012	The Cipla distinguished fellow in pharmaceutical science" lecture,	Dr. Vijay Walame Consulting Homoeopath Lokmanya Hospital, Chinchwad, Pune	Homeopathy: An Emerging Pharma-ceutical Science
7	30th April 2012	Professor V. M. Kulkarni endowment lecture,	Prof (Dr). Kanjaksha Ghosh Director, National Institute of Immunohaematology, Mumbai	Pharmacotherapy of Sickle Cell Ana-emia: Why Indian Pharmaceutical Industry is Silent

8	May 11, 2012	The Professor B. D. Tilak visiting fellowship lecture,	Professor P. Thyagarajan Pro - Chancellor (Research), Sri Ramachandra University, Chennai	Herbal Drugs as Block Busters: The Way Forward

Academic Year 2012-2013

Sr. No.	Date Lecture	Fellowship	Distinguished Speaker / Affiliation	Title of Lecture
1.	11/05/2012	Professor B.I Tilak Endowment Lecture	Dr. S.P. Thyagarajan Pro-Chancellor (Research)Professor of Eminence and Dean (Research) Sri Ramachandra University, Chennai	Herbal Drugs as Block Busters: The Way Forward
2.	27/04/2012	Professor S.K Pradhan Endowment Lecture	Dr. Susheel Durani Department of ChemistryIndian Institute of Technology Bombay, Powai, Mumbai	Chemical Interactions and Biomolecular Ontogeny:The Puzzles of Stereochemistry and Symmetry in Protein Structure
3.	15/04/2013	Professor S.K Pradhan Endowment Lecture	Dr. Krishna N.Ganesh Prof. & Director Indian Institute of Science Education and Research (IISER)	Lecture 1: Making Drugs out of Nucleic Acids Lecture 2: Cationic Peptides and Peptide Nucleic Acids as Cell Penetrating Agents
4.	18/04/2013	Pharma-UGC CAS Visiting Fellowship Lecture	Prof. Anant Paradkar Director of the Centre for Pharmaceutical Engineering Science, University of Bradford, UK	Cocrystals and Polymorphs :innovation in technologies
5.	04/01/2013	Dept. of Sci. Tech.	Dr. B. S. Shankarnarayna Rao Professor, Dept of Neurophysiology of NIMHANS, Bangalore	Ever changing brain: Neural Plasticity and Recovery ofFunctions in Neurological and Psychiatric disorders
6.	22/04/2013	Themis Chemicals UICT Diamo Jubilee	Dr. Kuppuswamy Nagarajan Corporate Advisor, Hikal R & D Centre	New drug development; Indian achievements thus far
7.	17/03/2012	Themis Chemicals UICT Diamo	Dr. P.S. RamaniSenior consultant Neuro & Spinal Surgeon to: I. Lilavati Hospital & Research Centre	From Mixture to Mutation

		Jubilee	II. Shushrusha Citizens Co-op Hospital	
8.	22/04/2013	Professor V.M Kulkarni Endowment Lecture	Dr. Vilas Dhanukar Vice-President, Dr. Reddy's LaboratoriesLtd	Process Chemistry R&D in generic and NCE development
9.	30/04/2012	Professor V.M Kulkarni Endowment Lecture	Dr. Kanjaksha Ghosh Director, National Institute of Immunohaematology (ICMR), Mumbai	Pharmacotherapy of sickle cell anaemia: why Indian pharmaceutical i ndustry is silent
10.	10/04/2013	CIPLA Endowment Lecture	Dr. M.G.R. Rajan Head, Radiation Medicine Centre, Biomedical group, Bhabha Atomic Research Center Professor	Positron Emitting Radio-pharmaceuticals
11.	29/03/2012	CIPLA Endowment Lecture	Dr. Vijay Walame Consulting Homeopath, Lokmanya Hospital, Chichwad, Pune	Homoeopathy: An emerging pharmaceutical science
12.	29/01/2013	Dr. (Mrs.) M.R. Baichwal Endowment Lecture	Dr. Pankaj B. Desai Professor of Pharmacokinetics and Biopharmaceutics Director, Drug Development Graduate ProgrammeThe James L.Winkle College of PharmacyUniversity of Cincinati. Ohio, USA	Preclinical and Clinical Investigations of the Pharmacokonetic Interactions of Anticancer Drugs
13.	30/04/2012	Dr. (Mrs.) M.R. Baichwal Endowment Lecture	Dr. Rajiv Sarin Director, ACTREC, Mumbai	Genetics of Cancer Predisposition and Cancer Pharmacology
14.	29/03/2012	Dr. (Mrs.) M.R. Baichwal Endowment Lecture	Dr. Shobhona Sharma Professor, Dept of Biological Sciences, Tata Institute of Fundamental Research, Mumbai	Malaria infected red cells: can we target them?
15.	22/12/2012	Dr. (Mrs.) M.R. Baichwal Endowment Lecture	Dr. Lohit Tutupalli Director of Pharmacy and Chairman ,Pharmacy & Therapeutics Committee San Joaquin County Mental Hospital and	Role of Pharmacy in Psychiatry

			Health Services, Stockton, CA.	

Academic Year 2013-14

Sr. No	Date of Lecture	Fellowship	Distinguished speaker/Affiliation	Title of Lecture
1	05/03/ 2014	Dr. R.S Baichwal Seminar	Professor Dhiren R Thakker Ferguson distinguished professor and associate dean for Entrepreneurial Development and Global Engagement, UNC Eschelman School of Pharmacy, UNC, USA	Creation of Intellectual Property and Entrepreneurism: An Integral Part of Academic Pursuit in 21st Century
2	05/03/ 2014	Dr. R.S Baichwal Seminar	Sundeep Dugar, PhD President/CEO/Founder Sphaera Pharma, Singapore	Academy as an engine of Innovation: From the perspective of a Biotech CEO
3	05/03/ 2014	Dr. R.S Baichwal Seminar	Kasim Mookhtiar, PhD Chief Scientific Officer and EVP, Drug Discovery, Advinus Therapeutics Ltd, India	Intellectual Property Creation in Indian Technology Intensive institutions: Been there-done it or new horizons?
4	28/03/ 2014	Dep. of Sci. & Tech.	Professor Dr. Ganesh Thakur Northeastern University, Boston, USA	Tuning Endocannabinoid System for Therapeutic gain
5	11/02/ 2014	Themis Chemicals visiting fellowship	Dr. Abhay Harsulkar Professor and Head, Pharmaceutical Biotechnology, Poona College of Pharmacy, BVU, Pune	Nutrigenomics or nutrient-gene interaction with reference to disease pathologies.
6	28/01/ 2014	Professor S.K. Pradhan Endowment Lecture	Dr. G. Mugesh Professor, Department of Inorganic & Physical Chemistry, Indian Institute of Science	1. Synthesis and Biological activity of reduced graphene oxide nanosheets 2. Antioxidant nanoxymes
7	23/10/ 2013	Dr. (Mrs.) M.R. Baichwal Endowment Lecture	Amit Misra Associate Professor, Principal Scientist and In-charge; Pharmaceutics Division CSIR, Lucknow	Inhalable particles targeting drugs affecting host responses to tuberculosis
8	10/09/ 2013	Cipla distinguished	Theresa M. Allen, Professor of Pharmacology and Adjunct Professor of	Development of liposomal nanoparticles for anticancer applications

		visiting fellowship	Oncology, University of Alberta	

44. List the teaching methods adopted by the faculty for different programmes.

Blackboard teaching

LCD & Power Point presentations

Demonstrations through videos; on site demonstrations

Presentations by students

Application oriented assignments

Handouts followed by discussions

45. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Programme objectives are met by:

- Advanced teaching methodologies are used to ensure effective communication and good understanding
- Students are trained in the class for analytical and independent thinking
- Innovation is highly encouraged
- Learning outcomes are monitored by:
- Quizzes, MCQs, assignments as continuous evaluation, mid semester exam and end semester exams
- Discussion on student performance and strategies to improve quality in faculty room meetings within department
- Student feedback and feedback from alumni and from industry a major stakeholder is also given due importance
- Participation of students and winning awards in intra and inter collegiate co-curricular events and in intra and inter collegiate technical events is evidence of good performance
- Successful and high placement % with good starting salaries
- Admission of students to other institutes of high excellence

46. Highlight the participation of students and faculty in extension activities.

Seven faculty members have delivered lectures at other institutes, conferences, seminars etc. Total number of lectures for past 4 years is 102.

One of the faculty members is associated with Shri Satya Sai Seva Organization which deals with value based education for children from age group 6 years to 16 years along with other activities such as organizing yoga camps, health camps, blood donation, orphanage visits etc. One of the faculty member is a member of Suvarna Tarunanchi Sanghatana which works in the areas of career guidance in schools and colleges, gram swacchata abhiyan (Cleanliness drive) and organizing sports and cultural events.

Students visit NGO's and work in slums, old age homes, hospitals like Tata Memorial Cancer Hospital as a part of community service. The responsibilities range from preparing innovative games, story play cards, library management, data management and distribution of food, clothes to the needy. They have also participated in initiatives like joy of giving and Swaccha Bharat Abhiyan.

47. Give details of "beyond syllabus scholarly activities" of the department.

Seminars, Projects, Industrial Visits and Industrial Training

48. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

Course	Accreditation body	Period
B.Pharm	NBA	2008-2013 (In process for 2014 onwards)
B.Tech	NBA	2008-2013 (In process for 2014 onwards)
M.Pharm	NBA	2013-2016
M.Tech (Pharma)	NBA	2013-2016

49. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- Creation of intellectual property by novel inventions
- Development of innovative drug delivery systems including nanotechnology based formulations
- New Chemical entities for diseases of national relevance, process development for pharmaceuticals and fine chemicals.
- Standardization if herbal medicines and their documentation as monographs
- Pharmacological and toxicological screening of medicinal natural products and development of animal models

50. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength:

- High quality intake of students and accomplished and reputed faculty members.
- A culture of excellence in Research and Technical Education in Pharmaceutical sciences and Technology with a track record of research publications in high impact factor journals
- Placements in Industry and in top level Universities abroad for higher Studies
- Development of entrepreneurship skills amongst graduates and post-graduates
- Strong networking with the pharma industry and professional bodies

Weakness:

- Overloading of teaching staff by administrative responsibility because of vacant positions
- Limited space and infrastructure
- Limited involvement in community and non-formal sector
- Insufficient funding for infrastructure and development
- Inadequate funding for maintenance of equipment

Opportunities:

- Low level of R&D in the industry
- Outsourcing by the industry
- Increasing awareness of and demand for higher education in health care
- Need for newer drugs and formulations
- Government funding for research

Challenges:

- National institute and University with Central Government funding
- Establishment of new Technological Institutes offering similar courses
- Foreign universities coming to India attracting students abroad and also in India
- Increased availability of other attractive employment opportunities in other sectors
- Limiting government regulations and policies.

51. Future plans of the department.

- Developing centres of research in

  Nano drug delivery systems

  Toxicology

  Cancer and infectious diseases

  Preclinical and clinical pharmacology

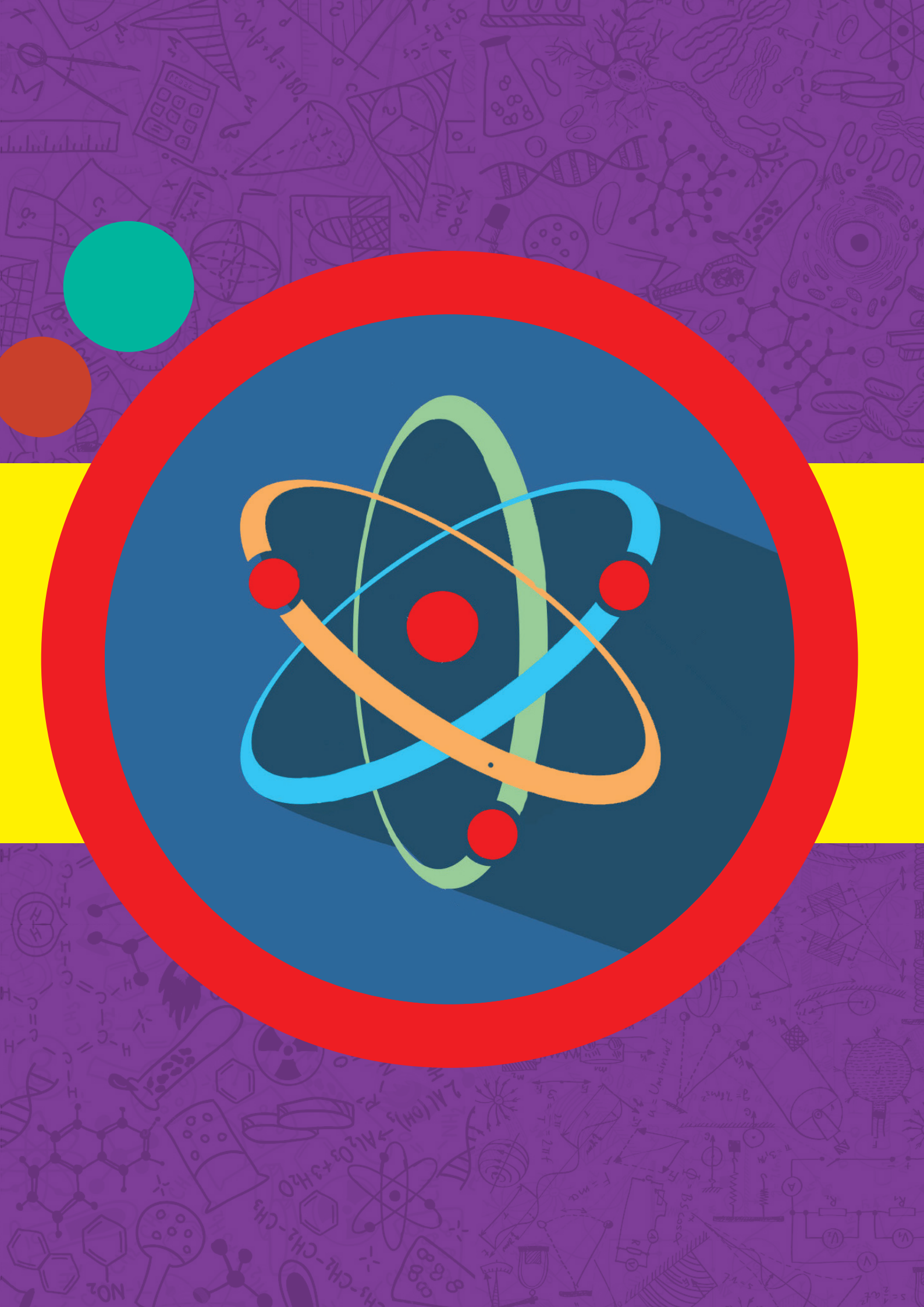
  UGC national networking centre in drug discovery and drug delivery
- Self-sustaining certificate courses in

Clinical pharmacy

Regulatory affairs and IPR

Pharmacoeconomics

PHYSICS DEPARTMENT



Physics Department

Physics Department

The Department of Physics, which has the distinction of being one of the earliest Departments in the Institute, initially started as Optics Section in 1934, subsequently is established as an individual department. Department is housed in the Centre for Advanced Studies building. The department has current staff strength of 6, which includes **2 Professor**, 1 **Associate Professor, 3 Assistant Professor.** The department has extensive Polymer science research laboratory and well equipped UG/PG laboratories. An instrument mechanic, 1 STAs, 1 laboratory assistant and 3 lab attendants take care of our all instruments.

The department undertakes teaching basic and applied Physics to Engineering and other allied technology courses, interdisciplinary programmes from UG to M.Tech. courses. The department will be introducing more electives at UG/PG level. The unique **M.Sc. Programme in Physics with emphasis on material science** is started in 2014. The programme aims at preparing students who will have sound knowledge of core physics and extensive exposure to and understanding of analytical and characterization techniques.

The faculty of the department undertakes research in many aspects of material sciences such as **electro-optical properties of Polymers, Nano and Plasma treatments in molecular tailoring of material, carbon nanotubes/polymer composites and Polymer-Nano-composites for structure property relationship, magnetic properties of materials, nanodrug delivery, theoretical aspects of chemical engineering and green energy alternatives like solar thermal technologies. there is also a unique research in colour assessment of dyed textiles and colour perception.** Department has produced number of PhDs in Physics with specializations in Nanoscience, Nanotechnology & Polymer composites. Faculties have collaborations with other departments in the Institute, professional bodies and industries. Departmental faculty has patents to their credit and are also involved in consultancies. We have recorded **100% placement** of our **PhD graduates** in academic as well as industrial sector.

The major thrust areas of research carried out in the Department are:

- Polymer/Polymer Composites and nanocomposites:
    - 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.
    - Surface modification of polymer materials using plasma for improvement of adhesion of printability properties.

- 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
- Configuration & surfaces of absorber pipes studies under different parameters.
- Steam generation up to 250oC for industrial applications

➢ Colour Assessment of Dyed Fabric and Study of Geometric Attributes of Colour

➢ Nanoparticles synthesis

➢ Theoretical Aspects of Chemical Engineering in collaboration with Department of Chemical Engineering of the Institute.

The department has proved its competencies in **government funded** projects worth Rs **2.9 crores** and **private funded** projects worth **Rs.20.18 Lakhs**, having 7 national and 2 international Collaborations. The steadily increasing faculty contribution in terms of research **papers** is the prime trait of the Department having **115 Peer reviewed Publications /Journals with an estimated impact factors of 1 to 7.86 conference proceedings with over 1700 citations in just last 5 years alone.** The faculties also have a rare distinction of holding patents as compared to many Physics Departments of other Universities. In addition to being part of various committees of the Institute, Department faculty manage the goodwill of institution by participating in national committees of neighbouring universities & organizations, conducting various technical workshops. Projects for UG students on academic interest basis are routinely offered and teaching methods as per ICT norms are regularly revised via constant internal meetings and introducing innovative courses.

The Department of Physics, with able guidance from adjunct and senior professors, aims to bank on its Strengths and eliminate its weaknesses such as being regarded as support department for the institution as a whole, no admin staff & low alumni involvement to shape policies. To handle the new challenges such as **developing new analytical techniques** or **attracting talented students& faculties on national level** and make the best of its opportunities such as launching of a **new M.Sc. course with a research grade labs and excellent faculty spectrum**, the department is confident to make boundless changes in Physics education at Bachelors, Masters& PhD levels of the Institute by establishing **new interdisciplinary centre for material science, more electives, a computing centre along with strengthening collaboration with national labs.**

1. **Year of establishment –** 1934
2. **Is the Department part of a school/Faculty of the university? –** YES
3. **names of programmes offered (UG, PG, M.Phil., Ph.D., integrated masters; integrated** - Ph.D., D.Sc. D.Litt., etc.) - M.Sc., PhD
4. **Interdisciplinary programmes and departments involved -** Courses for M. Tech. & M.Sc. (Textile Chemistry)
5. **Courses in collaboration with other universities, industries, foreign institutions, etc. –** NIL.
6. **Details of programmes discontinued, if any, with reasons –** NIL
7. **Examination system: annual/semester/trimester/choice Based credit system –** Semester**.**

8. **Participation of the department in the courses offered by other departments -** UG – 1st and 2nd year (both for B.Chem. Engg. & B.Tech.)

9. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/ asst. Professors/others) –**

Teaching Post	Sanctioned	Filled	Actual
Professor	2	0	2
Associate Professor	2	1	1
Assistant Professor	5	3	2
Other	1 DST 1FRP	1	1

Professor Prof. V. D. Deshpande & Prof. R. R. Deshmukh are CAS appointed Professors.

10. **Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance –**

Name	**Qualification**	**Designation**	**Specialization**	**Years of Experience**	**No. of PhD/ MPhil students guided for the last 4 years**
Prof. (MRS.) Vineeta Dinesh Deshpande	M.Sc., M. Phil, PhD	Professor	Polymer nanocomposite-structure-property relationship, Solar thermal applications, Nano-drug		8 + 1 (CO-GUIDE)
Prof. Rajendra Deshmukh.	M.Sc., PhDB.Ed.,	Professor	Plasma Polymer Physics, Functionalization nano-particles. Molecular tailoring of using plasma for biomedical applications, physics, Electro-optical properties of Polymer Liquid-Crystals. Polymer nanocomposites		8 + 1 (PhD Tech)

			materials.		
Dr. Mohan Narayan	M.Sc., PhD	Associate Professor	Statistical Mechanics of & applications to Chemical Engineering Phenomena, Theoretical High, Energy Physics.		2
Dr. Neetu Jha	M.Sc. PhD	Assistant Professor	Carbon Graphene, Fuel Cell electro-catalyst, Energy storage and Electrochemical Sensors		4
Dr. Ashween Mohan	M.Sc. PhD	Assistant Prof	Magnetic and Thermodynamic properties of materials, Low-Temperature Physics, Novel Materials		0
Dr. Awneesh Singh	M.Sc. PhD. PDF	Assistant Prof	Statistical Physics and Computational modelling of		
Prof. S. V. Panse	PhD	Adjunct Professor	Concentrating Solar		1
Prof. A. K. Kalkar	PhD	Adjunct Professor	Structure-property relationships in polymeric		

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors –

Visiting Faculty – 01

Professor N. C. Debnath

Adjunct Professor – 02

Professor A. K. Kalkar

Professor S. V. Panse

12. Percentage of classes taken by temporary faculty – programme-wise information – NIL

13. Programme-wise student teacher ratio – 15:1 (M.Sc. Physics Part I) 5:1 (M.Sc. Physics Part II)

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Support Staff	Sanctioned	Filled	Actual
Sr. Tech. Assistant	03	0	01

Instrument Mechanic	01	01	01
Lab Assistant	01	01	01
Lab Attendant	02	02	03

15. Research thrust areas as recognized by major funding agencies –

- Polymer Physics
- Solar energies and applications
- Nanoscience, Nanotechnology
- Plasma Processing, Electro-optics
- Nano-drug delivery

16. Number of faculty with ongoing projects from a) national b) international funding agencies and c) total grants received. Give the names of the funding agencies, project title and grants received project-wise

AICTE RPS(c))	Synthesis, Characterization and Study of Properties of Nano-Fillers Based Polysiloxane Composites	2 years	20 lakhs	Prof. (Mrs.) V. D. Deshpande	Vrushali Murudkar
UGC Major	Studies of Unique Morphological And Thermal Behavior of Reorganized Poly (Ethylene Terepthalate) And Its Nanocomposites With Organomodified Clay'	3 years	12 lakhs	Prof. (Mrs.) V. D. Deshpande	Amita Gaonkar
BARC	Development and characterization of selective coating for enhancement of radiation absorption of solar receivers	2 years	1.5 crores	Prof. (Mrs.) V. D. Deshpande	Satish Dubey
DST-MoFPI	Studies in Physico-Chemical Properties of	2 years (26/12/2012 to	20.18 lakh	Dr. U. S. Annapure Dr. R. R.	

	Plasma Processed Rice grains	26/12/2014)		DeshMukh	
DST Inspire	Development of Pt alloy based electrocatalyst for fuel cell	5 years	35 lakh	Dr. Neetu Jha	
DST Nanomission	Development of metal oxide graphene based supercapacitor	3 years	25 lakh, 77 thousand, 6 hundred	Dr. Neetu Jha & Prof. A. B. Pandit	
SERB, Startup grant for Young Scientist	Development of electro-catalyst support for fuel cell	3 years	17 lakh, 40 thousand	Dr. Neetu Jha	
BRNS, Young Scientist Research Award	Development of Carbon based nanocomposites for supercapacitor	3 years	11 lakh, 90 thousand	Dr. Neetu Jha	
Universal Starch-Chem Allied Ltd. **(Private Project)**	Studies in Synthesis of Biodegradable Polymer		20.18 lakhs	Dr. A. S. Sabnis Prof. R. R. Deshmukh Dr. Neetu Jha	Sinkar Mayur

17. inter-institutional collaborative projects and associated grants received –

Collaborator	National	International
Prof. V. D. Deshpande	02	-
Prof. R. R. Deshmukh	03	02
Dr. M. Narayan	02	-
Dr. Neetu Jha	04	
Dr. Ashween Mohan	01	01
Dr. A. Singh	04	01

1. **Prof. V. D. Deshpande:**
   Professor V. B. Patravale, Dept. of Pharma, ICT
   Professor V. A. Pandit, Dept. of Pharmceuticals, Bharati Vidyapeeth, Pune

2. **Prof. R. R. Deshmukh:**
   Dr. K. Navneetha Pandiyaraj, Dept. of Physics, SSIET, Coimbatore.
   Dr. Varsha Kelkar-Mane, Department of Bio-tech, University of Mumbai.
   Professor N. V. Bhat, BTRA. Mumbai.
   Professor R. Dabrowski, Institute of Chemistry, Military University of Technology, Warsaw 00-908, Poland.
   Professor R. B. Timmons, University of Texas, Arlington, USA.
   Professor U. S. Annapure, ICT, Mumbai.

3. **Dr. M. Narayan**

Dr. Vishvanath Dalvi, Dept. of Chemical Engg., ICT
Dr. Bipin Koranga, Dept. of Physics, Kirori Mal College, University of Delhi

4. **Dr. N. Jha**
   Dr. Shubra Singh, Anna University, Tamil Nadu
   Dr. Ashish Mishra, B.H.U., UP
   Dr. Shaijumon M. M., IISER, Trivandrum
   Prof. S. Ramaprabhu, IIT Madras, Chennai

5. **Dr. A. Mohan**
   Dr. Christian Hess, Leibniz Institute for Solid State and Materials, Germany
   Dr. A. Thamizhavel, TIFR, Mumbai

6. **Dr. A. Singh**
   Prof. Sanjay Puri, JNU, New Delhi
   Prof. Anirban Chakraborti, JNU, New Delhi
   Prof. Brojen Singh, JNU, New Delhi
   Prof. Shri Singh, BHU, UP
   Prof. Olga Kubsenok, Clemson University, USA

18. Departmental projects funded by DST-Fist; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received –

AICTE RPS(c))	Synthesis, Characterization and Study of Properties of Nano-Fillers Based Polysiloxane Composites	2 years	20 lakhs	Prof. (Mrs.) V. D. Deshpande
UGC Major	Studies of Unique Morphological And Thermal Behavior of Reorganized Poly (Ethylene Terepthalate) And Its Nanocomposites With Organomodified Clay'	3 years	12 lakhs	Prof. (Mrs.) V. D. Deshpande
BARC	Development and characterization of selective coating for enhancement of	2 years	1.5 crores	Prof. (Mrs.) V. D. Deshpande

	radiation absorption of solar receivers			
DST-MoFPI	Studies in Physico-Chemical Properties of Plasma Processed Rice grains	2 years (26/12/2012 to 26/12/2014)	20.18 lakh	Dr. U. S. Annapure Dr. R. R. Deshmukh
DST Inspire	Development of Pt alloy based electrocatalyst for fuel cell	5 years	35 lakh	Dr. Neetu Jha
DST Nanomission	Development of metal oxide graphene based supercapacitor	3 years	25 lakh, 77 thousand, 6 hundred	Dr. Neetu Jha
SERB, Startup grant for Young Scientist	Development of electro-catalyst support for fuel cell	3 years	17 lakh, 40 thousand	Dr. Neetu Jha
BRNS, Young Scientist Research Award	Development of Carbon based nanocomposites for supercapacitor	3 years	11 lakh, 90 thousand	Dr. Neetu Jha
Universal Starch-Chem Allied Ltd.	Studies in Synthesis of Biodegradable Polymer		20.18 lakhs	Dr. A. S. Sabnis

Total Grant received: Rs. 3,12,43,600.00

19. research facility / centre with

state recognition

national recognition

international recognition

20. special research laboratories sponsored by / created by industry or corporate bodies – No

21. Publications:

Number of papers published in peer reviewed journals (national / international)

Name	Number of Publications (Peer Reviewed)
Prof. V. D. Deshpande	23
Prof. R. R. Deshmukh	83
Dr. Mohan Narayan	23
Dr. Neetu Jha	24
Dr. Ashween Mohan	07
Dr. Awneesh Singh	21

Monographs - NIL

Chapters in Books - three chapters by Dr. R. R. Deshmukh

Name of the Book	Authors	Name of the Chapter	Editor(s)	Publishing	Year
Advances in Biomaterials for Biomedical Applications	**R. R. Deshmukh**, A. M. Trimukhe, K.N.Pandyaraj, A. Tripathi	Plasma surface modification of biomaterials for biomedical application	A. Tripathi, J. S. Melo	Springer	2017
Functionalized Engineering Materials and their Applications	**R. R. Deshmukh,** K. Deshmukh, G. M. Joshi, A. Sharma,,S. Arora, R. Tibrawala, S. Kalinathan	Study of Morphology and Electrical Properties of Pure and Hybrid Polymer Composites	S. Thomas, N. Kalarikkal, Pious C. V., Z. Ahmad, J. T. Haponiuk	CRC Press	2016
Biopolymer Composites in Electronics	**R. R. Deshmukh,** K. Deshmukh, M. B. Ahmed, S. K. K. Pasha, K. Chidambaram	Biopolymer Composites with High Dielectric Performance: Interface Engineering	K. K. Sadasivuni, D. Ponnamma, John-John	Elsevier Publisher	2016
Liquid Crystalline Polymers: Volume 2--Processing and Applications	**R. R. Deshmukh**	Electro-optic and Dielectric Responses in PDLC		Springer	2015
Plasma Technologies for Textile & Apparel	N. V. Bhat **R. R. Deshmukh**	Plasma processing of textiles to enhance their	S.K. Nema, P.B. Jhala	Woodhead Publishing, India	2014

Textile Dyeing	N. V. Bhat, **R. R. Deshmukh**	Pre-treatments of Textiles Prior to	Ira S. Krull, Sebastiano D'Amico	Intech Publisher	2012

Edited Books –NI**L**

Books with ISBN with details of publishers – **NIL**

Number listed in International Database (For e.g. Web of Science, Scopus) –all **mentioned in the Publication section – mostly Scopus**

Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.) –NIL

Citation Index – range / average

Prof. V. D. Deshpande	0 – 3.63	/ 3.63
Prof. R. R. Deshmukh	0-131	/ 14.39
Dr. Mohan Narayan	0-78	/ 13.19
Dr. Neetu Jha	0-112	/ 23.52
Dr. Ashween Mohan	0 – 2.7	/ 7
Dr. Awneesh Singh	0-8	/ 2.43

SNIP – NIL

SJR – NIL

Impact Factor – range / average

Prof. V. D. Deshpande	0.89 to 3.586 / 2.791
Prof. R. R. Deshmukh	0.35 to 5 / 2.77
Dr. Mohan Narayan	1.014 / 1.014
Dr. Neetu Jha	1.0 to 5.78/ 3.34
Dr. Ashween Mohan	1.75 to 8.46 / 3.833
Dr. Awneesh Singh	0.411 to 4.438 / 2.75

h-index

Prof. V. D. Deshpande	06
Prof. R. R. Deshmukh	19
Dr. Mohan Narayan	10
Dr. Neetu Jha	11
Dr. Ashween Mohan	03
Dr. Awneesh Singh	04

22. Details of patents and income generated

Name of the Patent holder	Number of Patents
Prof. V. D. Deshpande	01
Prof. R. R. Deshmukh	01 (applied for US Patents)
Dr. Neetu Jha	01

Patent details

Name	Title	Country	Patent No.
Prof. V. D. Deshpande	Pharmaceutical compositions for bioenhancement of active	India	1108/MUM/2012
Prof. R. R. Deshmukh	Plasma Surface Depositions of Thin	US	
Dr. Neetu Jha	CNT based magnetic nanofluids	India	408/CHE/2008
	CNT-M biosensor for detection of OP	India	1328/CHE/2008
	Nanocomposites including carbon nanotubes having metal	US	12/909547

23. Areas of consultancy and income generated industrial consultancy

Name of the Company	Consultant	Consultancy provided on
Universal Starch-Chem Allied		Conversion of starch to bio-polymer

24. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in india and abroad - Dr. R. R. Deshmukh visted Univ of Texas, Arlington

25. Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other

Dr. Mohan Narayan	University of Mumbai, MSc Syllabus Committee
Dr. Mohan Narayan	Member of Board of Studies, Univ of Mumbai
Prof. R. R. Deshmukh	Advisory Committee, BITRA
Prof. R. R. Deshmukh	Membership of Editorial Boards with name of journal and agency: International Journal of Materials Science and Applications, Science Publishing Group, USA

26. Faculty recharging strategies (UGC, ASC, Refresher / Orientation programs, Workshops, Training programs and similar programs) - 02

27. Student Projects

Percentage of students who have done in-house projects including inter-departmental projects - 50%

Percentage of students doing projects in collaboration with other universities industry/ Institute – 50%

28. Awards / recognitions received at the national and international level by

Faculty - Prof. R. R. Deshmukh is a reviewer for many Journals in the field of Polymer Physics & Surface Sciences

Doctoral / post-doctoral fellows – Nil

Students - Nil

29. Seminars/ Conferences/Workshops organized and the source of funding (national /international) with details of outstanding participants, if any

Department organized the following workshops

- "Revisiting Thermodynamics" under TEQIP
- "Current trends in Polymer Physics" under UGC CAS
- "Modern Trends in Polymer science and Technology" under TEQIP
- "Nanomaterials: Emerging Trends" under TEQIP
- "Plasma Processing of Materials" under TEQIP

30. code of ethics for research followed by the departments - the department adheres to the Institute policies

31. Student profile programme-wise

Name of the Programme	Applications Received	Selected		Passes Percentage	
		Male	Female	Male	Female
M.Sc. Admission – 2014	20	02	03	100%	100%
M.Sc. Admission – 2015	20	03	02	100%	100%
M.Sc. Admission – 2016	20	03	04		
M.Sc. Admission – 2017	36	12	03		

32. Diversity of students

Name of the Programme	% of Student from Same Institute	% of Students from other university within state	% of Students from other university outside state
M.Sc. Admission – 2014	0	100	0
M.Sc. Admission – 2015	0	100	0
M.Sc. Admission – 2016	0	100	0
M.Sc. Admission – 2017	0	93	7

33. how many students have cleared civil services and Defense services examinations, net, set, Gate and other competitive examinations? Give details category-wise. - 0

34. student progression

UG to PG	NA
PG to M.Phil.	NA
PG to Ph.D.	NA
Ph.D. to Post-Doctoral	NA
Employed	NA

Campus selection Yes

Other than campus recruitment Entrepreneurs NA

35. Diversity of staff

Percentage of faculty who are graduates	
Of the same University	-
From other University within the State	33%
From Universities of other States	67%
From Universities outside the countr	-

36. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period – NIL

37. Present details of departmental infrastructural facilities with regard to

- **Library** Yes
- **Internet Facilities for staff and students** **Available**
- **Total No. of classrooms** **02**
- **Class rooms with ICT facilities** **02**
- **Students Laboratory** **04**
- **Research Laboratories** **04**

38. List of doctoral, post-doctoral students and research associates

a) from the host institution/university - NIL

b) from other institutions/universities - 100%

39. Number of post graduate students getting financial assistance from the university. – NIL

40. Was any need assessment exercise undertaken before the development of new programme(s)? if so, highlight the methodology. – Yes

Extensive discussions with Subject Experts from BARC/IIT/University of Mumbai in framing the M.Sc. syllabus.

41. Does the department obtain feedback from?

Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? – YES

Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? – As per ICT Rules

Alumni and employers on the programmes offered and how does the department utilize the feedback? – As per ICT Rules

42. **List the distinguished alumni of the department** - NIL

43. **Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts:** Department has MS Patel Trust under which we invite eminent speakers from Polymer Physics

44. **List the teaching methods adopted by the faculty for different programmes:** As per ICT Norms

45. **how does the department ensure that programme objectives are constantly met and learning outcomes are monitored? -** Via constant internal discussions and interaction between faculties of the department & colleagues from other departments. also constantly innovating our courses.

46. **highlight the participation of students and faculty in extension activities:** The faculties of the department give lectures in colleges affiliated to neighboring universities

47. **Give details of "beyond syllabus scholarly activities" of the department:** Faculties participate in various conferences/workshops across the country

48. **State whether the programme/ department is accredited/ graded by other agencies? if yes, give details –** No

49. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied -** By research/consultancy

50. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department –**

Strengths:

- The department is a major center for polymer research
- a center for research in solar - thermal tech.
- faculty with diverse research interests
- quality teaching
- a unique M.Sc. program with emphasis on material science

Weaknesses:

- low faculty strength
- no departmental administrative staff
- too much involvement of faculty in institute administration
- being regarded just as a support department
- negligible involvement of alumni of the department for its development & to shape its policies

Opportunities & Challenges:

- interdisciplinary work with technology departments

- launching of a unique M.Sc. course because of the varied infrastructure available in the department
- develop newer analytical techniques
- attract talented students/faculties on a national basis
- to get industry support & participation for the M.Sc. course

51. Future plans of the department

- To establish a new interdisciplinary center for material science
- To further innovate the M.Sc. program by introducing more electives
- To set up a department computing center
- To further strengthen ties & collaboration with national laboratories
- To introduce more courses at the ug level

Lab Photos


IBM

DBT-ICT CENTRE FOR ENERGY BIOSCIENCES

DBT-ICT Centre for Energy Biosciences

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 Dr. G. D. Yadav, Vice Chancellor, ICT. The projects and technical programs at the Centre are coordinated by Dr. 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.

The Kick –off meeting for the BBSRC granted project titled “Cascade processes for integrated bio-refining of agricultural waste in India and Vietnam (CAPRI-BIO) on 30th – 31st May 2017.

The 4th Oversight committee meeting was conducted on 22nd – 23rd May 2017

Workshop organized by DBT for MI-India was conducted by ICT & ICGEB, New Delhi, on "Sustainable Biofuels Challenge" on 9th October 2017

Workshop on "Protein-Protein interaction technologies: Bacterial and yeast two hybrid systems & Lecture on “Careers in Biology” by Prof. Peter Uetz, Centre for the Study of Biological Complexity, Virginia Common Wealth University Richmond, VA, USA on 17th – 28th November 2015.

Events organized by DBT-ICT Centre for energy Biosciences

Inauguration of extension wing of DBT-ICT CEB by

Honorable Union Minister Dr. Harsh Vardhan on 23rd June 2015

Concept to Commercialization (C2C) Thought Leadership Symposium on Bioprocessing, 27th -28th May 2015

Bioprocessing India Event was organized on 17th -20th December 2014


Bioprocessing INDIA 2014
novozymes
BECKMAN COULTER
Biocon
INVENIOLIFE
INTAS
UMETRICS
PERMIONICS
HIMEDIA
Metrohm
PALL
MITSUBISHI CHEMICAL
Labsystems
TEQIP-II
Camlin
CFS
AquAgro
Bio Screen
Agilent Technologies


Nutrition & Healthcare
Jointly Organized by
Institute of Chemical Technology, Mumbai
HIMEDIA


UDCT
DIA 2014
Mumbai

Science Day Celebration 2011 held on 28th February 2011

1. Year of establishment – 2009

2. Is the Department part of a school/faculty of the university? – No

The Centre is established jointly by Department of Biotechnology (DBT), Government of India and Institute of Chemical Technology.

3. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.sc., D.Litt., etc.) –

PG, Ph. D.

4. Interdisciplinary programmes and departments involved

Course	Department
M.Tech Bioprocess Technology	DBT-ICT CEB
Ph.D. (Tech.) Bioprocess Technology	Department of Oils, Oleochemicals & Surfactants Technology
Ph.D. (Science) BioTechnology	Department of Chemical Engineering
Ph.D. (Science) Chemistry	Department of Food Engineering & Technology
Ph.D. (Tech.) Chemical Engineering	Department of Pharmaceutical Sciences & Technology
M. Tech Green Technology	Department of Chemistry
	Centre for Green Technology

5. Courses in collaboration with other universities, industries, foreign institutions, etc.

No

6. Details of programmes discontinued, if any, with reasons

No

7. Examination system: Annual/Semester/Trimester/ Choice Based Credit System/ Semester Based Credit System

8. Participation of the department in the courses offered by other departments

Ph.D. (Science) Chemistry	Department of Chemical Engineering

Ph.D. (Tech.) Chemical Engineering	Department of Chemistry
M. Tech Green Technology	Centre for Green Technology

9. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

Post	Sanctioned	Filled	Actual (including CAS & MPS)
Professor	-	-	**Nil**
Associate Professors	**4**	**4**	**Nil**
Assistant Professors	**4**	**3**	**Nil**
Others			**Nil**
Research Scientist	**3**	**3**	
Research Associate	**1**	**1**	
Post-Doctoral Fellow	-	**1**	

10. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Year of Experience	No. of Ph.D./ M.Tech/M. Chem. students guided for the last 4 years
Prof. Arvind M. Lali	Ph.D. Tech.	Professor of Chemical Engineering Head- DBT-ICT CEB	Chemical Engineering	32 yrs	Ph.D. – 28 M.Tech.- 6 M.Chem.- 6
Dr. Sandeep Kale	Ph.D. Tech. (Chem. Eng.)	Associate Professor	Chemical Engineering	8 yrs	M.Tech.- 19 PhD.- 4
Dr. Annamma Odaneth	Ph. D. Applied Chemistry	Associate Professor	Biochemistry	8 yrs	Ph.D. – 4 M.Tech.- 4
Dr. Reena Pandit	Ph.D. Marine Biotechnology	Associate Professor	Marine Biotechnology	7 yrs	M.Tech.

Dr. Gunjan Prakash	Ph. D. Plant Biotechnology	Associate Professor	Biotechnology		
Dr. Manju Sharma	Ph. D Microbiology	Assistant Professor	Microbiology	4yrs	-
Dr. Hitesh Pawar	Ph. D. Chemistry	Assistant Professor	Chemistry	3 yrs	-
Dr. Shamlan MS Reshamwala	Ph. D. Molecular Biology	Assistant Professor	Molecular Biology	4 yrs	-
Dr. Pooja Joshi	Ph. D. Plant Biotechnology	Research Scientist	Plant Biotechnology	5 yrs	-
Dr. Sanjeev K Chandrayan	Ph. D.	DBT-Energy Overseas Fellow (Research Scientist)		3 yrs	-
Dr. Rajeshkumar Vadgama	Ph. D. Science Biotechnology	Research Scientist	Biotechnology	10 months	-
Dr. Shalini Deb	Ph. D. Science	Research Scientist	Molecular Biology	10 months	-
Dr. Mayur Sathe	Ph.D. Chemical Eng.	Research Scientist	Chemical Engineering	6 months	-
Mr. Sandip Kale	Post Gradute Diploma in Patent Law	Research Associate	Patent & IPR	4 yrs	-
Mr. Deepak Sarda	M.Tech LLB	Research Associate	Patent & IPR	2 yrs	-
Dr. Nitin Trivedi	Ph.D. Biological Science	DST Inspire Faculty	Microbiology & Seaweed Biotechnology	2 yrs	--
Dr. Prathemesh Wadekar	Ph.D. Science	Post - Doctoral Fellow	Chemistry	2 yrs	-
Dr. Sneha Sawant	Ph.D. Biotechnology	Post - Doctoral Fellow	Biotechnology	1 month	-
Dr. Juilee Palkar	Ph.D. Biotechnology	Post - Doctoral Fellow	Biotechnology	1 month	-
Ms. Ritika Srivastava	Ph.D. Structural	Post - Doctoral Fellow	Structural Biology	1 month	-
Dr. Chaitali Vira	Ph.D. Biotechnology	Post- Doctoral Fellow	Biotechnoloyg	2 yrs	-

11. List of Senior Visiting Fellows, Adjunct faculty, Emeritus Professors

No

12. Percentage of classes taken by temporary faculty – programme-wise information

M.Tech. Bioprocess Technology – 60% (faculty at the centre, all of whom are on tenure track basis)

13. Programme-wise student Teacher ratio

- M.Tech (Bioprocess Technology) – 4:1
- Ph. D. (Tech.) Bioprocess Technology- 3:1
- Ph.D. (Sci.) Biotechnology – 8:1

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Sr. No.	Post	Sanctioned	Filled
1.	Instrumentation Engineer	02	02
2.	Junior Assistant	05	05
3.	Lab Assistant	10	10

15. Research thrust areas as recognized by major funding agencies

Biomass Deconstruction

Pretreatment is one of the key components in second generation bio-ethanol production contributing ~20% of the total cost, aiming towards producing enzymatically accessible cellulose by breaking lignin and hemicellulose barriers. Most of the processes developed throughout the globe are consolidated and biomass specific (non woody with low lignin content) limiting the commercialization of the same.

Our approach has been to develop a biomass independent process that not only yields high purity cellulose but also produces equally pure xylose and lignin streams, which can act as platform chemicals in numerous applications and not making process limited only to bio-ethanol as an end product. Furthermore, chemicals and reagents are efficiently recovered using advance unit operations with zero waste discharge, reducing overall economics of process

Enzyme Technology

The search for better enzymes for targeted activities and integration of processes to harness its potential is the scope of our research. The area of research for is divided into two main segments, namely; Enzyme Engineering and Process Engineering. These two approaches help integrate a rather unique approach in the field of Enzyme Technology, wherein, biotransformation is planned at the

atomic scale, developed at the molecular scale and integrated at the laboratory and pilot scale. The Enzyme engineering module works on in- silico enzyme design followed by applying tools from protein engineering. The work is primarily directed towards the development of enzymes with better physico-chemical properties and for targeted biotransformation problems. The Process Engineering module focuses on reaction engineering, reactor design and process integration and intensification. This unique combination of basic science and engineering principles has helped develop enzyme technologies with better efficiencies and end-product qualities.

The group is currently working on projects that employ enzymes for different fuel, food and pharma applications. The work entails processing agricultural residues and by-products of the agri-industry for valorization. The projects we handle include development of chemical and enzymatic methods and reactor systems for hydrolysing polysaccharides to sugars for fermentation and for nutraceuticals, proteins to bioactive peptides and oils to fatty acids that can be further derivatized for specific applications in food, pharma and lubricant industries.

Molecular & Synthetic Biology

Molecular Biology Group focuses on production of green alternatives to petroleum-derived fuels via bioconversion lignocellulosic biomass (LBM) from a variety of sources. We aim to develop multiple versatile microbial host platforms that will be capable of utilizing all LBM components -sugars, acids and aromatic compounds and converting them into value-added products. Heterologous gene expression and pathway modification form the basis for reprogramming microbial metabolic pathways. By employing recombinant DNA technology, we aim to develop economically viable and sustainable technology for biofuel production. Apart from biofuels, other value added chemicals targeted for bio-production include flavour and fragrance chemicals and building block materials.

Fermentation Technology

Fermentation group at DBT-ICT Centre for Energy Biosciences aims at developing advanced and progressive fermentation strategies for production of bio-based renewable biofuels (ethanol, butanol & Biomethane), industrial chemicals (lactic acid, propionic acid, acetic acid and 2,3-butanediol) and value added products (Vitamin B12, DHA and carotenoids) from sustainable feedstocks like agro-waste residues and other lignocellulosic biomass. The focus is to design commercially scalable advanced fermentation process technologies which are less capital intensive and with high productivities.

Economics of any industrially scalable process is the driving force for commercial success of any new technology and one of the biggest challenges for competing with existing as well as upcoming technologies for various bio-based products. Moving away from traditional batch technologies, development of Advanced Continuous Fermentation Systems is the key to transform industrial biotechnology with enhanced productivities.

Algal Biotechnology

The Algal biotechnology Lab at CEB is working to develop algae as a commercially viable feedstock for renewable energy, feeds, nutraceuticals, bio-products, water conservation, waste water management and CO2 abatement. It holds a sunlight driven facility to assist all research activities under natural sunlight to facilitate direct translation of lab based results to large scale. The approaches at CEB includes bio-prospecting of algal strains; nutrient and light optimisation; coupling of lignocellulosic derived sugar technology for mixotrophic growth, high value product development; genetic engineering, photobioreactor and raceway system design to develop economically viable methods of producing biofuels and other commodities. The advanced lab research is being scale-up by developing pilot-scale semi-commercial facility of large photobioreactors to support development of innovative, sustainable, and commercially viable algae-based biotechnology solutions for the production of biofuels and bio-products.

Separation & Bioprocess Technology

Downstream processing accounts for major cost (>60%) component in production of biopharma, biologics, pharma, natural, nutraceutical, health supplements, food and feed products or ingredients used for various applications. Therefore process design, development, optimization, validation and scale-up from lab level to commercial plants is taken as key activity in the group. This is achieved through selectivity engineering during designing of bioprocesses, specifically in adsorptive and chromatographic separations, membrane separations, precipitation and crystallization, extraction and distillation as unit operations. Understanding of science underpinning the processes using molecular simulations and mathematical modelling is carried out to arrive at processes having superior objective functions for yield, purity and productivity with low cost (both CAPEX and OPEX). Group specifically deals with extraction and purification of proteins, enzymes, antibodies and hormones, photochemical, nutraceuticals and health suppliments, food additives and feed suppliments. In the process development high throughput process design (HTPD) tools are used with Quality by Design approach (QbD) to get best operative variables for successful scale up and consistent throughput as well as performance. Development of suitable analytical methods and its validation is another exercise in the group which gives better insight into the process for correct quality assessment and for design of process analytical technology (PAT).

Stability of the product another challenge on which work is being carried out. Conformational and colloidal stabilization of antibodies and other biopharma and biologics is being done to arrive at a strategy for their stabilization by which these products can remain stable even at room temperature and with other stress conditions. Development of new generation adsorbents and transformation of natural products is also carried out to reduce cost of purification and also to get products in minimum number of steps with superior yield and purity. Another dimension is valorisation of agro-products through secondary agriculture (using bioprocessing strategies) is done to obtain value added products. In all cases, process integration and intensification is carried out to benefit the overall manufacture. Thus, process and process equipment design and scale-up from lab level to commercial/full scale plant is carried out for successful translation of technologies at industrial scale.

16. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received; give the names of the funding agencies, project title and grants received project-wise.

Number of Faculty

Professor	01
Associate Professor	04
Assistant Professor	03
Research Scientist	05
Research Associate	05

Ongoing Projects

Government Projects

Sr. no.	Title	Funding Agency	Amount (in lakhs)	Duration
1.	Biphasic Fermentation for Triacyl Glycerol (TAG) production from pretreated lignocellulosic biomass	DBT, India	39.84	2017-2020
2.	Pilot scale translational facility for value added chemicals from biomass	DBT-CEB-BIPP	50.00	2016-2017
3.	Performance and durability improvements in the solar thermal desalination system at Narippaiyur and utilization of reject sea water for algae cultivation to produce biogas	DST-KGDS	61.35	2015-2018
4.	Integrated biorefinery for production of sorghum seed protein Phase II	DST-AISRF	113.74	2015-2017
5	Design of selective nanoporous membrane bioreactor for efficient production of bio- butanol from lignocellulosic sugars	IGSTC, DST, India	115.40	2014-2017
6	Centre for Energy Biosciences: New and Extension Proposals	DBT, India	1800.00	2013-2018
7	Energy Biosciences Overseas Fellowship & Chair	DBT, India	1472.21	2009-2020

Private Projects

Sr. no.	Title	Funding Agency	Amount (in lakh)	Duration
1	Research development of chloroplast derived enzyme mixtures	Gencrest LLP	136.50	2017-2019
2	Engineering, Procurement, Construction, Installation, Commissioning and Operation & Maintenance services in the entire hydrocarbon chain with offerings across Upstream, Midstream & Downstream and Pipeline Projects (DBT-ICT-2G Ethanol Technology)	L&T Hydrocarbon Engineering Ltd	500.00	2017-2027
3	Developed of improved animal feed ingredient from seed meals	Godrej Agrovet Ltd. II	100.00	2016-2019

a) Number of Ongoing Projects from National funding agencies: 7

b) Number of Faculty with Ongoing Projects (national & International): 16

c) Total Grants Received: 4411.54 Lakhs only

17. Inter-institutional collaborative projects and associated grants received

a) National collaboration b) International collaboration

Sr. No	Title	Collaboration	Grant Received (INR Lakhs)
	International		

1.	Design of selective nanoporous membrane bioreactor for efficient production of bio-butanol from lignocellulosic sugars	• Fraunhofer Institute for Ceramic Technologies & Systems, Hermsdorf Germany	115.40
2.	Transnational approaches to resolving biological bottlenecks in macroalgal biofuel production	• School of Biological & Biomedical Sciences, Durham Energy Institute, Durham University • Centre for Advanced Research in International Agricultural Development (CARIAD), Bangor University • Institute of Biological, Environmental and Rural Sciences. Aberystwyth University	471.02
3.	Engineering enzymes, bacteria and bioconversion processes for advanced biofuels from waste grain straw	• Clostridia Research Group/ Life Sciences, University of Nottingham • Centre for Novel Agricultural Products, Department of Biology, University of York • Institute for Cell and Molecular Bioscience, Newcastle University • Faculty Health & life Sciences, Oxford Brookes University	272.08
4.	Integrated technologies for economically sustainable bio-based Energy	• Centre for Tropical Crops and Biocommodities, Queensland University of Technology, Brisbane, Australia • The Centre for Energy, The University of Western Australia, Perth, Australia • Department of Chemical Engineering, Curtin University, Perth, Australia • New South Wales Department of Primary Industries	444.00

	National		
5.	Transnational approaches to resolving biological bottlenecks in macroalgal biofuel production	• CSIR-Central Salt and Marine Chemical Research Institute, Bhavnagar, Gujarat	471.02
6.	Engineering enzymes, bacteria and bioconversion processes for advanced biofuels from waste grain straw	• DBT-ICGEB Centre for Advanced Bioenergy Research, New Delhi • School of Biotechnology, Jawaharlal Nehru University, New Delhi • Department of Genetics, Madurai Kamaraj University	272.08
7.	Integrated technologies for economically sustainable bio-based Energy	• DBT-ICGEB Centre for Advanced Bioenergy Research, New Delhi • DBT-IOC Centre for Advanced Bioenergy Research, Faridabad • The Energy and Resources Institute, New Delhi • National Institute of Interdisciplinary Science and Technology, Thiruvananthapuram	444.00
8.	Macroalgal Biorefinery for CO2 Sequestration and production of biofuel and valued added compounds	• CSIR-Central Salt and Marine Chemical Research Institute, Bhavnagar, Gujarat • Aquagri Processing Private Limited	85.00
9.	Green Enzymatic fat splitting technology for production fatty acids and acyl glycerols	• Acme Synthetic Chemicals	362.66 (industry contribution) 850.60 (DST contribution as grant to ICT)
10.	Pilot Scale Translational Facility for Value Added Chemicals from Biomass	• Privi Biotechnologies (P) Ltd.	395.00 (Industry Contribution) 390.00

			(BIRAC, DBT contribution to company as loan) 50.00 (BIRAC, DBT contribution to ICT as grant)
11.	Lignocellulosic Ethanol Pilot Plant to Integrated Continuous Pilot plant	• India Glycols Limited	862.50 (Industry Contribution) 862.50 (BIRAC, DBT contribution to company as loan)

18. Departmental projects funded by DST-FIST; UGC-SAP/CAs, DPE; DBT, ISSR, AICTE, etc.; total grants received

Sr. No	Title	Funding Agency	Amount (Rupees in Lakhs)	Duration
1	DBT-ICT Centre for Energy Biosciences	DBT	2480.00	2008-2012
2	Development of Bioscience and Biotechnology for next generation biofuel	DBT	196.00	2010-2012
3	Extraction, purification of sorghum seed protein for delayed delivery of bioactives	DBT	101.00	2010-2012
4	Improved Production of Biogas and Bio-CNG from Lignocellulosic Biomass	MNRE, India	267.16	2013-2016
5	DBT-ICT Centre for Energy Biosciences: New and Extension Proposals	DBT, India	1800.00	2013-2018
6	Extension: Intellectual Property Management and Technology Commercialization (IPM-TC) Unit	BIRAC (DBT)	90.00	2013- 2015

7	Transnational approaches to resolving biological bottlenecks in macroalgal biofuel production	DBT- BBSRC	498.41	2013-2016
8	Engineering enzymes, bacteria and bioconversion processes for advanced biofuels from waste grain straw	DBT- BBSRC	806.76	2013-2016
9	Integrated technologies for economically sustainable Bio-based Energy	AISRF Indo-Australia Grand Challenge Program, DST, India	255.664	2013-2016
10	Extraction, purification, stabilization and biological studies of natural gonadotropins and other uroproteins	SBIRI (BIRAC/DBT)	22.00	2011-2014
11	Green Enzymatic Fat-Splitting Technology for Production of Fatty Acids and Acyl Glycerols	DST	850.60	2014-2016
12	MacroAlgal Biorefinery for CO2 Sequestration and Production of Biofuel and Value-added Compounds	DSIR	85.00	2014-2016
13	Design of Selective nanoporous membrane bioreactor for efficient production of bio-butanol from lignocellulosic sugars (SeNaMeB)	IGSTC	115.40	2014-2017
14	Integrated Biorefinery for Production of Sorghum Grain protein	DBT	113.74	2015-2017
15	Energy Biosciences Chairs & Energy Biosciences Overseas Fellowship	DBT	1472.21	2010-2020
16	Development and Characterization of Alternative Affinity Adsorbent for Purification of Therapeutic Antibodies	DBT	68.468	2013-2016
17	Pilot scale translational facility for value added chemicals from biomass	DBT-SBIRI, DBT, India	22.50	2013-2015
18	Biphasic fermentation for triacyl glycerol (TAG) production from pre-treated lignocellulosic biomass	DBT, India	1800.00	2013-2018

19	Performance and durability improvements in the solar thermal desalination system at Narippaiyur and utilization of reject sea water for algae cultivation to produce biogas	DBT, India	1472.21	2009-2020

19. **Research facility / centre with**

- ✓ state recognition
- ✓ national recognition

20. Special research laboratories sponsored by / created by industry or corporate bodies research laboratories sponsored by:

GE Healthcare, Agilent Technologist India Pvt. Ltd.

21. Publications:

Number of papers published in peer reviewed journals (national/international) - 146

Monographs - Nil **Chapter Books-** 9 **edited Books -** Nil

Books with ISBN with details of publishers - Nil

Number listed in International Database (for e.g. Web of science, Scopus Humanities International Complete, Dare Database - International social sciences Directory, EBSCo host, etc.) - Nil

Citation Index – range / average - 3-1040

Impact factor – range / average - 07-5.0

h-index - 16-238

22. Details of patents and income generated

PATENTS GRANTED

Sr. No.	Title	Patent no.	Inventors	Income generated
1	Enzymatic Process For Fat And Oil Hydrolysis	SG11201404463P AU2013213921 JP2014-553823 US9512451	Lali Arvind Mallinath; Odaneth Annamma Anil; Vadgama Rajesh Natwarlal; Tribhuvan Nikhil Vilas	NIL
2	Method For Production Of	• US8709763 (US-DIV-I); 2009	Lali Arvind Mallinath; Odaneth	500+162.50L

	Fermentable Sugars From Biomass	• US8338139; 2009 • US8673596 (US-DIV-II); 2009 • BD1005172; 2009 • PK141809; 2009 • ZA2011/09250; 2012 • AU2010252547; 2015	Annamma Anil; Nagwekar Pooja Devidas; Varavadekar Jayesh Suman; Wadekar Prathamesh Chandrashekher; Gujarathi Swapnali Subhash; Valte Rajeshwar Dattatraya; Birhade Sachinkumar Hirama	
3	Continuous Counter Current Fluidized Moving Bed (FMB) And/Or Expanded Moving Bed (EMB)	1. CN201080020354.2; 2015 2. CA2754700; 2015 3. ZA10-1370986; 2014 4. US 8673225; 2009	Lali Arvind Mallinath; Kale Sandeep B; Pakhale Vinod D; Thakare Yogeshwar N.	-
4	Process for Fractionation of Biomass	1. JP2013-513816; 2015 2. ZA2013/00133; 2010	Lali Arvind Mallinath; Varavadekar Jayesh Suman; Wadekar Prathamesh Chandrashekher	NIL

PATENTS FILED AND/OR IN PROCESS OF PROSECUTION

# No.	Title	Patent no.	Inventors	Income Generated
1.	Ammonia assimilation by recombinant microorganism	201721023070	Deb Shalini Subir; Reshamwala Shamlan Mohammed Shafi; Lali Arvind Mallinath	NIL

2.	Extractive production of microbial oil using oleaginous yeasts	201721013545	Lali Arvind Mallinath; Odaneth Annamma Anil; Pawar Pratik Prashant; Warke Mrunal Anil; Vadgama Rajeshkumar Natwarlal; Chourasia, Vallari Ramesh	NIL
3.	Genetically modified microorganism and process for production of zeaxanthin therefrom	201721011982	Lali Arvind Mallinath; Pandit Reena; Sarnaik Aditya; Rai Peeyush Shekhar	NIL
4.	Process for treating liquid industrial effluents to produce clean water and recovering pollutants for value addition	201721002215	Lali Arvind Mallinath; Pawar Hitesh Suresh	NIL
5.	Process for purification and refining of glycerol	201621000574 PCT/IN2017/050013	Kale Sandeep Bhaskar; Lali Arvind Mallinath; Patel Bhavin Manubhai Jha Pamela; Gupta Vinod; Kohli Ashwani Kumar; Mital Vineet	100L+ROYALTY FOR 10YRS
6.	A process for generation of biogas from organic matter via its liquefaction to biocrude	201621030327 PCT/IN2017/050385	Lali Arvind Mallinath; Sharma Manju; Pawar Hitesh Suresh; Gore Suhas	NIL
7.	Enzymatic hydrolysis process for production of fermentable sugars	201621030093 PCT/IN2017/050382	Lali Arvind Mallinath; Odaneth Annamma Anil; Victoria Juliet Joanna; Choudhari Vikram Gunvant; Mahadik Chinmayee Ramray; Sawant Sneha Chandrakant;	NIL

			Khairat Mayur Basavraj; Birhade Sachinkumar Hiraman	
8.	A catalytic liquefaction (CTL) method for production of bio-crude oil using ionic liquid catalyst and preparation thereof	201621025317 PCT/IN2017/050303	Lali Arvind Mallinath; Pawar Hitesh Suresh; Shravan sreenivasan	NIL
9.	A novel glucose tolerant glucosidase enzyme (Mbgl)	201621022859	Lali Arvind Mallinath; Chandrayan Sanjeev Kumar; Sathe Sneha; Soni Suarabhi	NIL
10.	Continuous process for production of Vitamin B12	201621017230 PCT/IN2017/050190	Lali Arvind Mallinath; Prakash Gunjan; Pillai Vijita V.	NIL
11.	Suspended cultivation of macroalgae in photobioreactor	201621013008	Lali Arvind Mallinath; Pandit Reena Ajit; Mhatre Akanksha Devinath; Navale Mahesh Maruti	NIL
12.	Photosynthetic microorganisms mediated rapid wastewater treatment using continuous photobioreactor	201621011795	Lali Arvind Mallinath; Pandit Reena Ajit; Palkar Juilee Ajit; Navale Mahesh Maruti	NIL
13.	Process for detoxification and improvement of seed meals, cakes and other products	201621011034	Kale Sandeep Bhaskar; Lali Arvind Mallinath; Febin Pappachen; Susmita Koley; Narkhed Pitamber Narayan; Naik Rajesh Kasanji	100L+ROYALTY FOR 10 YRS
14.	Process For Production Of Pure Glucose From Cellulose	2782/MUM/2015	Lali Arvind Mallinath; Odaneth Annamma Anil; Victoria Juliet Joanna; Choudhari Vikram Gunvant;	NIL

			Wadekar Prathamesh Chandrashekhar; Patil Mallikarjun Laxmiputra; Patil Parmeshwar Shivajirao; Asodekar Bhupal Ravindra; Prakash Indra; Huang Xiaoyan	
15.	A Method For Production Of Isoprenoids By MEP Pathway In Engineered Pseudomonas Putida	2666/MUM/ 2015	Lali Arvind Mallinath; Aruna Mahesh; Krishnan Archana	NIL
16.	Separation Of Organic Acid From Mixtures Containing Ammonium Salt Of Organic Acids	2090/MUM/ 2015	Lali Arvind Mallinath; Maurya Ritu Rahul	NIL
17.	A Novel Shuttle Vector With Reversible And Extendable Modules For Engineering Of Host Cells	3507/MUM/ 2014	Lali Arvind Mallinath; Bajawa Arjun Singh; Matlani Rekha Khushiramani	NIL
18.	Constructs For Gene Expression And Integration In Host Cell 2014	Indian Application No.: 3506/MUM/ 2014	Lali Arvind Mallinath; Deb Shalini; Reshamwala Shamlan M.S.	NIL
19.	Algal Variants Produced By Genome Shuffling	1940/MUM/ 2014 Inventors:	Lali Arvind Mallinath; Prakash Gunjan; Shukla Bhavya; Vira Chaitali; Rathod Jayant Pralhad.	NIL
20.	Enzymatic Production Of Monoacylglycerol From Oil	1583/MUM/ 2014	Inventors: Lali Arvind Mallinath; Odaneth Annamma Anil; Vadgama Rajesh Natwarlal; Tribhuvan Nikhil Vilas	NIL
21.	Enzymatic Process For Synthesis Of Fatty Acid	1526/MUM/ 2014	Inventors: Lali Arvind Mallinath;	NIL

	Ester Of Polyols		Odaneth Annamma Anil; Yadav Manish Gyanendra.	
22.	A Process For Fractionation Of Oligosaccharides From Cereal Bran	155/MUM/ 2014; PCT/IB2015/ 000030	Lali Arvind Mallinath; Odaneth Annamma Anil; Pednekar Mukesh Prabhakar	NIL
23.	A Process For Production Of Soluble Sugars From Biomass	154/MUM/ 2014; PCT/IB2015/ 000034	Lali Arvind Mallinath; Odaneth Annamma Anil; Birhade Sachinkumar Hiraman; Victoria Juliet Joanna; Sawant Sneha Chandrakant.	NIL
24.	Process For Extraction Of Polyphenols From Biomass	3808/MUM/ 2013	Lali Arvind Mallinath; Odaneth Annamma Anil; Pednekar Mukesh Prabhakar; Singh Niteshkumar Satish; Rathi Abhijit; Iyer Padmini; Deshmukh Sharad	NIL
25.	Recombinant E. Coli Strain And Process For Production Of Mannitol Therefrom	3807/MUM/ 2013	Lali Arvind Mallinath; Reshamwala Shamlan M.S.	NIL
26.	Process For Synthesis Of Furan Derivatives From Saccharides Using Acid Catalyst And Preparation Thereof	3664/MUM/ 2013; PCT/IB2014/0 02537	Lali Arvind Mallinath; Pawar Hitesh Suresh	NIL
27.	Multistage Membrane Tree Model For Separation Of Binary Mixtures	2478/MUM/ 2013	Lali Arvind Mallinath; Valte Rajeshwar Dattatraya	NIL

28.	A Process For Immobilization Of Microbial Cells For Biotransformation	3291/MUM/ 2012	Lali Arvind Mallinath; Mule Abhishek Dilip; Sawdekar Parikshit Rameshwar; Degweker Gautam Shashikant.	NIL
29.	Process For Extraction And Purification Of Pentacyclic Triterpene Acid/S In High Yield And Purity	2172/MUM/ 2012	Lali Arvind Mallinath; Kale Sandeep Bhaskar; Amritkar Vinod Dattatray	NIL
30.	Raceway Pond System For Increased Biomass Productivity	1705/MUM/ 2012; WO2013186626	Lali Arvind Mallinath; Pandit Reena; Prakash Gunjan; Mathpati Channamallikarjun; Gangal Swanand; Vira Chaitali; Palkar Juilee; Patil Smita; Gaikwad Sujata	NIL
31.	A Process For Recovery Of Xylitol With High Yield And Purity	421/MUM/ 2012	Lali Arvind Mallinath; Kale Sandeep Bhaskar; Kadam Sandip	NIL
32.	Process For Production Of Purified Hydrophobic/ Plastifiable Protein/S, Their Hydrolysate/S And Applications Thereo	420/MUM/ 2012	Lali Arvind Mallinath; Kale Sandeep Bhaskar; Kumar Prashant; Mane Sharmilee	NIL
33.	Enzymatic Process For Fat And Oil Hydrolysis	WO2013114178; 278 /MUM/2012	Lali Arvind Mallinath; Odaneth Annamma Anil; Vadgama Rajesh; Warke Mrunal; Bhat Anuradha	Pilot plant being constructed for Demonstration with DST support Total project cost = 850.60 L+362.50L = 1213.10L
34.	A Process For Isolation Of Natural & Bioactive Proteins And Other Minor Components From	3577/MUM/ 2010	Lali Arvind Mallinath; Odaneth Annamma Anil;	Pilot plant being constructed for Demonstration with Kanoria

	Defatted Oil Seed Material		Iyer Padmini Raju; Ghosh Bidisha; T. D. Anupama; Rathi Abhijit; Deshmukh Sharad	Chemicals, Vizag. ICT payment of 50.00L for the demonstration of technology

23. Areas of consultancy and income generated

A.2012-2013

Sr. No.	Name of the Company	Name of the Faculty	Period of Consultancy	Total Consultancy Amount	Faculty share	ICT share
1.	M/s.Privi Organics Ltd.	Prof. Arvind M.Lali	1 Year	Rs.18,00,000.00	Rs.12,00,000.00	Rs.6,00,000.00

B.2013-2014

Sr. No.	**Name of the Company**	**Name of the Faculty**	**Period of Consultancy**	**Total Consultancy Amount**	**Faculty share**	**ICT share**
1.	M/s.Camlin Fine Sciences Ltd.	Prof. Arvind M.Lali	1 Year	Rs.10,00,000.00	Rs.6,66,667.00	Rs.6,00,000.00
2.	M/s.Camlin Fine Sciences Ltd.	Dr.Annamma Anil	1 Year	Rs.5,00,000.00	Rs.3,33,333.00	Rs.1,66,667.00
3.	M/s. Abhay Cotex Pvt. Ltd.	Dr. Sandeep Kale	6 months	Rs.7,20,000.00	Rs.4,80,000.00	Rs.2,40,000.00
4.	M/s. Mitsubishi Chemical India Pvt. Ltd.	Dr. Sandeep Kale	6 months	Rs.98,697.00	Rs.65,798.00	Rs.32899.00

C.2014-2015

Sr. No.	**Name of the Company**	**Name of the Faculty**	**Period of Consultancy**	**Total Consultancy Amount**	**Faculty share**	**ICT share**

1.	M/s.Warden International (Agencies) Pvt.Ltd.	Prof. Arvind M.Lali	3 months	Rs.9,00,000.00	Rs.6,00,000.00	Rs.3,00,000.00
2.	M/s.Kanoria Chemicals & Industries Ltd.	Prof. Arvind M.Lali	1 year	Rs.15,00,000.00	Rs.10,00,000.00	Rs.5,00,000.00
3.	M/s.Kanoria Chemicals & Industries Ltd.	Dr.Annamma Anil	1 year	Rs.10,00,000.00	Rs.10,00,000.00	Rs.5,00,000.00
4.	M/s.Catapro Technologies	Dr.Sandeep Kale	7 months	Rs.8,00,000.00	Rs.5,33,333.00	Rs.2,66,667.00

D.2015-2016

Sr. No.	Name of the Company	Name of the Faculty	Period of Consultancy	Total Consultancy Amount	Faculty share	ICT share
1.	M/s.Mitsubishi Chemicals India Pvt. Ltd.	Dr. Sandeep B.Kale	2 months	Rs.75,600.00	Rs.50,400.00	Rs.25,200.00

E.2016-2017

Sr. No.	Name of the Company	Name of the Faculty	Period of Consultancy	Total Consultancy Amount	Faculty share	ICT share
1.	Godrej Agrovet Pvt.Ltd.	Prof.A.M. Lali	1 Yr	25,00,000.00	10,00,000.00	3,33,333.00
2.	Godrej Agrovet Pvt.Ltd.	Dr. Sandeep Kale	1Yr	25,00,000.00	15,00,000.00	5,00,000.00

24. Faculty selected nationally/ internationally to visit other laboratories/ institutions/ Industries in India and abroad

- **Dr. Reena Pandit** Awarded the prestigious Bioenergy-Awards for Cutting Edge Research (B-ACER) Fellowship supported by Department of Biotechnology (DBT) & Indo-US Science & Technology Forum (IUSSTF) at Arizona State University, USA 2016

- **Prof A. M. Lali** was selected to be a part of the delegation to US for assessment of New technologies in Alternate Energy – Potential for India
- **Prof A. M. Lali** was selected to be part of the Project Review Monitoring Committee (PRMC) for "pre-clarification of molasses to improve the performance of alcoholic fermentation"
- **Prof A. M. Lali** presented The ICT mandate in the Indo Australia Grand challenge project to **Hon'ble Prime Minister narendra Modi** at Brisbane 2014

- **Dr. Sandeep B. Kale** – Beyond Antibodies, Bangalore under TEQIP Programme
- **Dr. Gunjan Prakash** was selected for Indo-Queensland early career Fellowships 2012 by DBT and Queensland Government.
- **Dr. Annamma A Odaneth** was invited by Prof (Dr.) De-Xin Kong, Centre for Bioinformatics, College of Informatics, Huazhong Agricultural University, Wuhan, China from 22nd April 2015 to 25th April 2015.
- **Prof A.M.Lali and Dr. Annamma Odaneth** were invited to AICTE sponsored summer school at KIT, Kolhapur.
- **Dr. Annamma Odaneth** was selected as a resources person for the workshop on "bioinformatics and its applications in genomics and Proteomics at Hyderabad on 6th-7th October 2015

25. Faculty serving in

a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Prof. Arvind M. Lali

- Member, core group of scientists in the area of Bioenergy with Ministry of New and Renewable Energy, Government of India.
- Member, Department of Biotechnology, Ministry of S&T of India Task Force in Biofuels,
  Algal Biotechnology and Bioproducts and
  Bioprocesses
- Member, Apex Committees, Food and Nutritional Safety, DBT, India.
- Member, Task Force Committees on Biofuels, Bioprocesses and Bio-products, DBT, India.
- Member of the Scientific Advisory Committee (SAC) on Industrial Biotechnology
- Member, Biotech Research Society of India (BRSI)
- Member, Research Council Committee, IMTECH, Chandigarh
- Consultant to a number of companies in India & aboard for chemical/biochemical &

biopharmaceutical/pharmaceutical manufacturing

- Research Council as a Scientific Expert/Member for Bharat Petroleum Corporation Ltd. (BPCL), 2016-2018

- Member, Scientific Advisory Committee (SAC), Centre of Innovative and Applied Bioprocessing (CIAB), Mohali

Dr. Sandeep Kale

- Member, Indian Pharmaceutical Association (IPA)
- Member, Board of Governor (BOG), UDCT Alumni Association (UAA), 2012-2015
- Member, Biotech Research Society of India (BRSI)
- Dr. PD SETHI Award for Best Paper Publication, 2012

Dr. Annamma A Odaneth

- Member, Biotech Research Society of India (BRSI)
- DBT Nominee, (IBSC) for Advanced Enzyme Technologies Ltd.

Dr. Gunjan Prakash

- Member, Biotech Research Society of India (BRSI)

Dr. Reena Pandit

- Member, Biotech Research Society of India (BRSI)

Dr. Manju Sharma

- Member, Biotech Research Society of India (BRSI)

Dr. Shamlan Reshamwala

- Member, Biotech Research Society of India (BRSI)

26. Faculty recharging strategies (UGC, ASC, refresher / orientation programs, workshops, training programs and similar programs)

- Prof. A.M. Lali attended I Biofuture Summit at Sao Paulo on 24th -25th October 2017
- Prof. A.M.Lali attended 6th International Conference on “Lignocellulosic Ethanol" held at Brussels, Belgium on 25th-29 September 2017

- Prof.A.M.Lali, & Dr. Annamma Odaneth participate in CEM & MI2 Technology Exhibition held at Beijing, China on 5th-9th June 2017

- Prof.A.M.Lali participated in “Rice Research Summit: What can we learn from each other? At York, U held on 23rd-24th February 2017

- Prof. A. M. Lali participate in workshop on “Creating Investment Avenues on setting up of a second generation (2G) Ethanol project by Oil PUSs” held at New Delhi on 3rd

November 2016

- Dr. Sandeep Kale attended the Bioprocessing India 2016 at Mohali
- Dr. Shamlan Reshamwala attended the short term course on 'Contemporary strategies for teaching and evaluation
- Prof A. M. Lali, Dr. Annamma Odaneth, Dr. Gunjan Prakash, Dr. Shamlan Reshamwala, Dr. Sanjeev Chandrayan, Dr. Aruna Mahesh & Dr. Chaitali Vira participate UK-India workshop on Industrial Biotechnology held on 12th September 2016.
- Dr. Reena Pandit Awarded prestigious Bioenergy awards for cutting edge research fellowship and to work with Prof. Peter Lammers at The Arizona Centre for Algae Technology and Innovation, Arizona, USA for August –October 2016.
- Dr. Nitin Trivedi attended workshop on "Synthetic and Systems Biology Applications in Bioenergy" held on 29 Feb -9 March at ICGEB, New Delhi.
- Prof A.M. Lali, Dr. Reena Pandit, Dr. Gunjan Prakash, Dr. Nitin Trivedi and Dr. Chaitali Vira attended a workshop on Advances in Algal Biotechnology held at IIT, Bombay on November 21, 2015
- Dr. Pooja Joshi and Mr. Sandip Kale attended FICCI-EBTC workshop on The Eurpoean Patent System and EPO examination practice in the field of Pharmaceuticals and Biotechnology and Commercialization of IP on 5th October 2015.
- Prof A.M. Lali and Dr. Reena Pandit attended Seaweed Cultivation and Breeding and Eurpoean Seaweed Production and Marketability Courses at Scottish Association for Marine Science conducted by the Scottish Marine Institute, Scotland from 11th - 14th May 2015.
- Honing Mentioning Skills- A Holistic Approach, From 5-9 May, 2014
- Bioprocessing India, December 2014
- Lecture series entitled "An introduction to metabolic modeling and its applications" Prof. David Fell, Professor of Systems Biology, Dr. Mark Poolman and Dr. Hassan Hartman, Oxford Brookes University, UK was conducted in January 23, 2015
- Dr. Reena Pandit attended the DBT Inter-Ministerial workshop on Quality Feedstock for Biodiesel "Algae: Potential next generation feedstock for biodesiel", TERI, July 2015
- Dr. Gunjan Prakash, Dr. Aruna Mahesh, Dr. Ashish Misra, Dr. Aruna Goenka Agarwal and Dr. Rupali Walia attended Indo- US workshop and Conference in Systems & Synthetic Biology, JNU, 2014
- Dr. Reena Pandit attended the Hands on training and workshop Algal Biotechnology, "Challenges for growing next generation natural solutions for bio-fuels", Vaze Kelkar College, May 2015.

Dr. Shamlan Reshawala attended a national seminar on 'Fungi in Biotechnology' organized by Department of Botany, SIES College and Mycological Society of India, Mumbai unit, on 28th-29th November 2014.

- Dr. Manju Sharma attended the Workshop for Grand Challenges India Recent Call on "All Children Thriving" under the DBT-BIRAC- BMGF Partnership on 14th November 2014 at ICT, Mumbai.
- Dr. Gunjan Prakash and Dr. Reena Pandit attended Indo-UK Scientific Seminar 'Prospects and Challenges in Algal Biotechnology' February 19-21, 2014, IIT-Gauwhati, India
- Dr. Reena Pandit and Dr. Gunjan Prakash attended Indo US workshop on "Cyanobacteria: Molecular Networks to Biofuels". 16th - 20th December 2013, Lonavla, India
- Dr. Pamela Jha attended the Workshop on "Concept 2 Commercialization Clone 2 Clinic Culture 2 Chromatography" jointly organized by ICT and GE, Mumbai, May 27th - 28th 2015.
- Dr. Pamela Jha attended the Workshop on "Advanced Techniques on Anti- cancer drug evaluation" organized by ACTREC, Navi Mumbai, Nov 3th -7th, 2014.
- Dr. Pamela Jha attended the Workshop on "IPR: A Strategic Tool to Transform Innovations into Technologies" organized by Department of Pharmaceutical Sciences & Technology, Institute of Chemical Technology, Mumbai, Sept 6, 2014.
- Dr. Rupali Walia attended 11th Management Capacity Enhancement Program for TEQIP Institutions at IIM-Kozhikode from 20th - 25th July 2015
- Dr. Rupali Walia attended International Training Programme On Leadership And Career Development for Women Scientists and Technologists (28th Aug -1st Sep 2015, Pune)
- Dr. Annamma Odaneth attended the different seminars and hands on session at "'Protein- protein interaction technologies: Bacterial and yeast two-hybrid systems and their applications in combination with mass spectrometry and bioinformatics" from November 17th -27th, 2015

27. Student projects

- Percentage of students who have done in-house projects including inter-departmental projects 54%
- Percentage of students doing projects in collaboration with other universities/industry institute 46%

28. Awards / recognitions received at the national and international level by faculty

Prof. Arvind M. Lali

- Awarded “G.M.Marve” Prize for Most Research Oriented Group during 2016-17 by Institute of Chemical Technology, Mumbai
- Science and Technology "Eminent Scientist" Award by KG Foundation, Coimbatore, 2016.
- BIRAC Innovator Award 2016 by DBT & Chairman BIRAC, 2016.
- UAA-ICT Distinguished Alumnus Awards in Academic, 2015.
- Vasvik Award in Biological Sciences & Technology by Vividhlaxi Audyogik Samshodhan Vikas Kendra, Mumbai, 2013
- IIChE Sartorius India Chemcon Distinguished Speaker, 2008
- Fellow, Maharashtra Academy of Sciences, 2007
- IIChE NOCIL award for excellence in design or development of process plant or equipment, 2006
- Several awards for best poster presentations and for best oral presentations

Resource person, Summer Winter School Scheme (SWSS) Kolhapur Institute of Technology’s College of Engineering and to deliver lecture on 6th June 2015.

- Head, DBT-ICT Centre for Energy Biosciences
- Chairman, TEQIP Industry Institute Interaction Cell
- Chairperson : Research Recognition Committee (Bioprocess Technology)
- Chairperson: Research Recognition Committee (Biological Sciences)

Dr. Sandeep Kale

- Resource person, Summer Winter School Scheme (SWSS) Kolhapur Institute of Technology’s College of Engineering and to deliver lecture on 6th June 2015.
- Chair and Convener, Bioprocessing INDIA 2014 conference, 17th - 20th December 2014
- Consultant to Catapro Technologies, Nashik, 2014
- Resource person, faculty development program, PSG, Coimbatore

Dr. Annamma A Odaneth

- Resource person, Summer Winter School Scheme (SWSS) Kolhapur Institute of Technology’s College of Engineering and to deliver lecture on 6th June 2015.
- Resource person for seminars conducted at Biomass And Bioenergy Research Center, National Key Laboratory Of Crop Genetic Improvement, Huazhong Agricultural University, Wuhan, Hubei, China on 23rd April 2015
- Resource person for Refresher Course in Biosciences on January 12, 2015 at - ‘New

Era in Biological Sciences' at the Birla College of Arts, Science and Commerce, Kalyan under the ages of UGC-Academic Staff College, University of Mumbai.

- Resource person for seminar on "Transforming enzymatic transformations" on Institute of Biological, Environmental and Rural Sciences, Aberystwyth University, UK. on 21st November 2014

Doctoral / post doctoral fellows

Sr. No	Name	Award
1	Akanksha Agarwal	Top 20 finalists in BEST-ABLE, 2015
2	Arjun Singh Bajwa	2nd prize at BEST-ABLE, 2015
3	Sneha Sawant	Best poster award at Accelerating Biology C-DAC, 2014
4	Hiral Shukla	Young Scientist, Bioprocessing India, 2014
5	Shalini Deb	Best poster award at Indo- US workshop and Conference in Systems & Synthetic Biology, JNU, 2014
6	Snehal Agrawal	1st Bioprocessing India 2014
7	Lucy Nainan	2nd prize for poster at Bioprocessing India, 2014
8	Sneha Sawant	Best poster award at Young Researchers' Conference, 2013
9	Prashant Kumar	1st Prize best poster at NHBT, Patiala 2012
10	Gautam Degweker	International Conference on Yeast Biology, IIT Mumbai, 10 December2011 1st Prize for poster
11	Bhavin Patel	Basics of Nanotechnology and its application 2014, CIRCOT, Mumbai. Young Innovator in Bioprocessing - 2014,
12	Sushmita Koley	First prize in poster presentation in Healthcare & Nutrition, Bioprocessing India 2014
13	Snehal Agrawal	Third prize in oral presentation in Healthcare & Nutrition, Bioprocessing India 2014
14.	Febin Pappachan	First prize in poster presentation in Healthcare & Nutrition, Bioprocessing India 2014
15	Mrunal Warke	Won best poster award at 2nd International Indo German Symposium on Green Chemistry and Catalysis for Sustainable Development, ICT, Mumbai, 29th – 31st October 2012.

16	Mrunal Warke	Won second prize at Young Researchers' Conference, ICT, Mumbai, 13th – 14th January 2011.

28. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any

# No.	Title	Date	Source of Funding
1.	The Kick –off meeting for the BBSRC granted project titled "Cascade processes for intergrated bio-refining of agricultural waste in India and Vietnam (CAPRI-BIO)	30th – 31st May 2017	Global Challenges Research Fund (GCRF)
2.	Workshop on "Valorisation of CO_2 & CH_4 from Anaerobic Digestion, Landfill and other Biological Processes"	9th – 10th January 2017	BBSRC India Partnership Award
3.	Workshop organized by DBT for MI-India was conducted by ICT & ICGEB, NewDelhi, on "Sustainable Biofuels Challenge"	9th October 2017	DBT, New Delhi
4.	The 4th Oversight committee	22nd -23rd May 2017	DBT, New Delhi
5.	Workshop on "Protein-Protein interaction technologies: Bacterial and yeast two hybrid systems & Lecture on "Careers in Biology" by Prof. Peter Uetz, Centre for the Study of Biological Complexity, Virginia CommonWealth University Richmond, VA, USA	17th-28th November 2015	American Society for Microbiology (ASM) & Indo-US Science and Technology Forum (IUSSTF)
6.	DBT-Overseas Fellows and Chairs Conclave	10th April 2015.	DBT- Overseas fellowship
7.	Concept to Commercialization (C2C) Thought Leadership Symposium on Bioprocessing	27th-28th May 2015	Industries
8.	Lecture on "Biological Photoreceptors-Basics and Modern Applications" by "Dr. Wolfgang Gaertner, Dept. of	2nd March 2015	DBT-ICT CEB

	Heterogeneous Reactions, Group Leader of Photoreceptors Research , Max Planck Institute for Chemical Energy Conversion, Muelheim an der Ruhr, Germany		
9.	Lecture on " An introduction to metabolic modeling & its application" by Prof. David Fell, Prof. Mark Poolman Dept.of Biological & Medical Sciences & Dr. Hassan Hartman from Oxford Brookes University, UK	23rd & 24th January 2015	DBT-BBSRC partnership funding
10.	Bioprocessing India 2014	17th-20th December 2014	Industries & TEQIP
11.	Workshop for Grand Challenges India Recent Call on "All Children Thriving" under the DBT-BIRAC- BMGF Partnership	14th November 2014	DBT- BIRAC, Govt. of India
12.	Lecture on "Foreign gene expression in chloroplast & oral delivery of therapeutic proteins" by Dr. Henry Daniell, Dept. of Biochemistry & Translation Research, Penn Dental School, University of Pennsylvania	11th July 2014	DBT-ICT CEB
13.	Lecture on "The Four Imperatives of Energy & Their Implications in Sustainable Energy Development" by Prof. Dongke Zhang, University of Western Australia	19th April 2014	DBT-ICT CEB
14.	Indo-US Workshop "Biofuels and Bio-products"	8th March 2013	DBT-ICT CEB
15.	Kick off meeting for The SuBBSea Macroalgal project at The Orchid Hotel, Mumbai	24th -25th February 2014	BBSRC Funding

29. Code of ethics for research followed by the departments

- The Centre follows the code of ethics as set by the Institute.

30. Student profile programme-wise:

Name of the	Applications	Selected	Pass percentage

Programme (refer to question no. 4)	**received**	Male	Female	Male	Female
M.Tech Bioprocess Technology	1030	65	45	100%	100%
Ph.D. Tech. Bioprocess Technology	170	25	8	NA	NA
Ph. D. Science (Biotechnology)	248 (124)	12	12	10%	10%

33. Diversity of students

Name of the Programme (refer to question no. 4)	**% of students from the same university**	**% of students from other universities within the State**	**% of students from universities outside the State**	**% of students from other countries**
PhD (Sci.) (Biotechnology)	-	82	18	-
PhD (Tech.)	77	6	6	11%
M. Tech BPT	-	69	31	-

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Category	**Students qualified**
Civil and defense services	Nil
NET and SET	4
GATE	3
DBT JRF	3

35. Student progression

Student progression	**Percentage against enrolled**
UG to PG	3%
PG to M.Phil.	Nil
PG to Ph.D.	91%
Ph.D. to Post-Doctoral	33%
Employed	
□ Campus selection	80%
□ Other than campus recruitment	20%

Entrepreneurs	1%

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	23%
from other universities within the State	28%
from universities from other States	33%
from universities outside the country	5%

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period- Nil

38. Present details of departmental infrastructural facilities with regard to

a) Library
Students & Faculty of the Department can avail the facilities of the Institute library which is well-equipped with numerous volumes of textbooks, reference books, journals and digital journals.

b) Internet facilities for staff and students
The Institute has WI-FI facility on the campus and the students and staff can access it the same. The Centre also has private WiFi facility that can be used for any invited guests, non-teaching faculties and teaching faculties, all students and trainee personnel at the Centre.

c) Total number of class rooms - 1

d) Class rooms with ICT facility - 1

e) Students' laboratories - 3

f) Research laboratories - 7

39. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university -17

b) from other institutions/universities - 44

40. Number of post graduate students getting financial assistance from the university.

- At present, the Institute does not provide any financial assistance to the students. However, it does recommend that all post graduate students should be

supported by fellowships based on projects/endowments/ donations/IP revenues created by the institute.

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Yes. The Departmental committee made several deliberations. Experts from within the Institute and from other reputed Institutes were consulted. A syllabus committee comprising of faculty members of the Department and external experts was constituted to frame the syllabus.

42. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
Yes. The feedback from the faculty members is taken by the Head of the Department and discussed in the Department meetings. Suitable changes are made in the teaching and evaluation accordingly.

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
Yes, the Head of the Department takes feedback from the students at the end of each semester. Besides this, some of the faculty members also obatin feedback from the students for their individual courses. The Institute has devised a centralised online feedback system for all the courses.

c. alumni and employers on the programmes offered and how does the department utilize the feedback?
The Head of the Department and the faculty members have constant interaction with the alumni and their feedback is taken into account.

43. List the distinguished alumni of the department (maximum 10)
NIL

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

- Lecture on “Career in Biology” by Prof. Peter Uetz, Centre for the study of Biological Complexity, Virginia Commonwealth University, Richmond, VA, USA.
- Workshop on "Protein-Protein interaction technologies: Bacterial and yeast two hybrid systems” Prof. Peter Uetz, Centre for the study of Biological Complexity, Virginia Commonwealth University, Richmond, VA, USA.
- Lecture on " Bioenergy production from microorganisms : H2 the future fuel” by Dr. Chitralekha Dasgupta, CSIR-NBRI,Lucknow.

- Lecture on "Waste not waste not. Catalysing a sustainable future (Catalytic routes to convert waste biomass to fuels & chemicals" by Prof. Karen Wilson, Aston University, Birmingham
- Lecture on "Biological Photoreceptors-Bascis and Modern Applications" by Dr. Wolfgang Gaertner, Dept of Heterogenous Rections, Group Leader of Photoreceptore Research, Max Planck Institute for Chemical Energy Conversion, Muelheim an der Ruhr, Germany
- Training Programme to train our research student for isolating protoplast of microalgae by Dr. Vishal Gupta, ICGEB, New Delhi.
- World Intellectual Property Day (26th April 2011)
- BD Flower program organized by BD Biosciences (18th July 2011)
- BIA separation seminar (21st July 2011)
- 2nd National Workshop on Proteomics (24th -26th August 2011)
- 6th National workshop on Preparative and Process Chromatography, 24th to 26th August 2011 at ICT,Mumbai
- Intellectual Property Workshop at ICT (27th February 2012)
- Science day Celebration (28th February 2012)
- Science day celebration on 20th February 2014.
- BBSRC-DBT Kick off meeting was organized on 24th and 25th February 2014.
- Inauguration of "Extension Wing of DBT-ICT CEB by Honorable Union Minister of Science & Technology & Earth Sciences Dr. Harsh Vardhan on 23rd June 2015.

45. List the teaching methods adopted by the faculty for different programmes.

Methods adopted by the faculty

- One to one interaction
- Power Point Presentation
- Continuous Assessment
- Experimental Demonstration
- Case study based teaching

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

- We have a system of continuous assessment under which a series of tests, assignments, quizzes are arranged throughout the semester to monitor the progress of our students and teaching. There is also one formal mid-semester examination. The weightage of continuous assessment in the total marks is 30%, while that of the mid-semester exam is 30% and the end semester exam is 40%.
- We ensure advice from external experts by appointing them as visiting faculty.
- We regularly organize lectures by the experts.
- Students are encouraged to participate in co-curricular activities within and outside the institute.

47. Highlight the participation of students and faculty in extension activities.
Students of Ph. D. & M.Tech. Participate in the inter collegiate events and competition organized by ICT

- Sportsaga (Marathon and Badminton) ICT
- ICT PremierLeague (Cricket) ICT
- Blood Donation Camps
- Empressio (Gobal Business Model Competition)
- ABLE-BEST (Biotech Enterpreneurship Competition)
- TechFest (IIT B)
- Manzar (ICT)
- SAP Simulation workshop (RCF)
- Saanj (ICT Indian Classical and Dance Music)
- Vortex (ICT)

48. Give details of "beyond syllabus scholarly activities" of the department.

The faculty members of the Department are actively involved in various research activities like guiding Ph.D. students, industrial consultancy, executing sponsored projects and writing books and research papers. In addition, they contribute to the activities of other Departments / Universities as members of Ph. D. thesis evaluation and syllabus review committees.

Most of the faculty members of the Department have delivered invited lectures in conferences / seminars / workshops. They are regular resource persons for refresher courses conducted for college teachers.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

- Yes, M.Tech BPT is accredited by AICT MBA from 5 years

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

- Feedstock independent technology for biomass deconstruction to sugars has been developed for lignocellulosic biomass feedstocks (e.g. rice straw, wheat straw, bagasse, empty palm fruit bunches, cotton and castor stalks, tea wastes, corn stover and corn cob).
- The biomass-to-sugars and ethanol platform technology has been transferred to and translated by India Glycols Ltd to a scale of 10 ton per day biomass. The pilot plant is ready for commissioning and would be completely operational by the end of February 2016. Blueprints for higher scale plants are being worked out and are expected to be ready by March 2016.
- Based on biomass derived sugars, other biorefinery technologies have been developed, transferred and translated to pilot scale plants by three Indian industries, which include production of vanillin, xylitol and cello-oligosaccharides from grain

bran; biorefinery for production of organic acids from biomass, and butanol from biomass.

- The work and existing expertise has also been extended to other novel concepts like refining of sugarcane extracts, oil seed biorefinery for production of protein concentrates and isolates, edible oils, phytosterols, isoflavones and other value adds; and platform technology for fatty acids and designer lipid derivatives. All these technologies are adequately protected worldwide.
- Globally competitive technologies have been developed for alcohols, organic acids, and different sugar derivatives including feed, food and functional molecules.
- World class infrastructure and expertise has been established to help Indian and global industrial biotech industry in fields of enzyme engineering & technology; separation and downstream processing; fermentation technology; and synthetic & molecular biology
- The intellectual property based on the platform technology has been protected through two Indian patent applications, 1299/MUM/2009 and 1762 /MUM/2010; these have been filed in thirty six (36) countries. Of these, three (3) patents have been granted in the USA, two (2) in South Africa and one (1) each in Bangladesh and Pakistan.
- The Centre at any time operates more than 10 industry sponsored projects. Ongoing projects include projects from Bacardi-Martini B.V., Netherlands; Wacker Chemie AG, Germany; The Coca Cola Company, USA; Godrej Agrovet Private limited, India; Wipro GE Healthcare Private Limited, India; Privi Biotechnologies Private Limited, India; Kanoria Chemicals & Industries Private Limited, India among others.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths

1. Strong cross-disciplinary team – from basic biologies (molecular biology; biochemistry; microbiology; bioinformatics; plant biology) to biochemical engineering to chemical engineering
2. World class infrastructure with sustained investment of more than Rs. 10 cr per year (excluding salaries and fellowships).
3. Dedicated faculty, support staff and senior and junior research fellows closely working on overlapping themes
4. Strong relationship with industry both in India and abroad resulting in all projects being targeted towards industrial translation
5. Rapid generation of Intellectual property resulting in a large number of patents being filed both in India and abroad

Weaknesses

1. Very wide spectrum of projects each covering ground from conceptualization to translation resulting is slow off-take of innovations to industry. A separate wing responsible for translation required.
2. Limited space of expansion of infrastructure to accommodate increasing projects and PhD fellows which not only restricts hiring of trained and senior staff and thus resulting in under-utilization of the opportunities
3. Lack of facilities to demonstrate the bench scale concepts at scale large enough to show the proof-of-concept to interested industry. A dedicated technology translation facility needed.
4. Currently spending about Rs. 15 cr/year, the Centre to require more than Rs. 25 cr/year to sustain its growing capabilities from 2017 onwards
5. Unable to attract joint projects within the Institute with other departments esp. in catalysis and synthetic materials

Opportunities

1. Establishing one of the strongest group in the world in the area of synthetic biology and renewables technology
2. Aiding the government programs such as Clean India and Make-in-India
3. Establish India as one of the significant technology providers in the area of biofuels, bioenergy and renewables as well as in products of secondary agriculture
4. Exploitation of the generated IP to attract revenues exceeding Rs. 25 cr./year from 2017 onwards
5. Generate world class and competitive skilled manpower in the area of industrial biotechnology and renewable chemistry

Threats

1. Inability to regularise the senior and productive scientists of the Centre as regular employees of the Institute which today results in job insecurity and lack of any job associated benefits (all the scientists are today employed in project mode).
2. Loss of highly developed and evolved scientists to competing institutes or industry as a result of point 1 above.
3. Possible inability to sustain and expand the sphere and activity and scope due to possible absence or discontinuation of the current leadership
4. Possible lack of coordination and emergence of unfavourable working atmosphere due to unhealthy competition amongst younger scientists that form the bulk of team of senior scientists
5. Domination of promotion of personal and non-scientific interests over collective welfare

52. Future plans of the department.

The Centre aims to continue the work in an intensive mission mode to develop feedstock neutral technologies for generating value from waste (Municipal solid & liquid waste, agro residues and forest waste). Engineering of microbial/algal systems through optimally designed synthetic biology platforms for this purpose is underway. The utilization of waste streams for fermentative production of biochemicals/biomaterials of industrial relevance catering to the food, feed and fuel sectors forms the core mandate of the Centre.

The products targeted under the waste to value scheme at DBT-ICT Centre are as follows:

- Biofuel: Cellulosic Ethanol, Butanol, Bio-CNG, L-limonene, 2,3 Butanediol
- Food: Sugars (Glucose, Arabinose, Xylose, Cellobiose, Cellooligosaccharides, Xylooligosaacharides, Arabinoxylans), Xylitol, Mannitol, Maltol, Mono Acyl Glycerols (MAG), Di-Acyl Glycerols (DAG), Fatty Acids (FA), Glycerin, Sugar esters, Ascorbyl palmitate
- Feed: Poultry Feed, Aqua Feed
- Biomaterials: Green Polyethylene Ethylene Terephthalate (PET), Polylactic Acid (PLA) Polyethylene Glycol (PEG), Polyricinoleic Acid (PRA).
- Bio-chemicals: Terpenes, Isoflavones, Amino acids, Organic Acids (Acetic acid, lactic acid, propionic acid), Furfural, 5-Hydroxymethyl Furfural, Furan Di-carboxylic Acid, Designer Lipids, Flavor Lactones, Protein Isolates and Concentrates.

Notes :

DYESTUFF TECHNOLOGY DEPARTMENT

Dyestuff Technology Department

Dyestuff Technology Department

The Department of Dyestuff Technology was established in 1944 under the stewardship of Prof. K. Venkataraman, the then director of Institute of Chemical Technology (ICT, then known as UDCT), University of Mumbai. Under the successive leadership of highly experienced, talented and hard- working scientists and scholars such as Prof. B. D. Tilak, Prof. S. V. Sunthankar, Prof. S. Seshadri, Prof. D. W. Rangnekar, Prof. V. R.Kanetkar, Prof. P. M. Bhate and Prof. N. Sekar, the department has trained more than 1000 undergraduate students and over 450 postgraduate students.

Prof. K. Venkataraman did pioneering work in synthetic dyestuff chemistry, natural colorants, structural elucidation and spectral studies. His volumes on "The Chemistry of Synthetic Dyes" are still widely read and treated as the bible for dyestuff chemists and technologists worldwide. These have been translated into more than 14 languages.

Prof. B. D. Tilak worked extensively in the field of anthraquinone and naphthaquinone vat dyes, and on azide chemistry. Prof. S. V. Sunthankar investigated the chemistry of steroids, pesticides and silicon compounds in addition to exploring dyestuff chemistry. The contribution of Prof. S. Seshadri to Vielsmeier-Haack reaction and coumarin chemistry is very well recognized. Prof. D. W. Rangnekar published widely in the area of heterocyclic chemistry and was instrumental in initiating BRNS-BARC sponsored projects on the synthesis of laser dyes and solid state lasers. These projects, which became vital for the country post Pokhran-II, were successfully executed and completed by Prof. V. R. Kanetkar, who also modernized and refurbished the DRL (Dyes Research Laboratory). The outstanding research work (reported over 1000 publications) carried out by these stalwarts has created a permanent impact on dyestuff and allied industries, globally and locally. Presently Prof. G. S. Shankarling, Prof. P. M. Bhate, Prof. N. Sekar, Dr. S. Some, Dr. S.Saha and Dr. S. Sadhukhan been working in tandem to bring glory and glitter to the Department of Dyestuff Technology.

The Department is a unique center of learning that offers an advanced curriculum in tune with the latest industrial and academic developments. Not only it has it produced a new generation of talented color technologists and bright researchers, but also led to an effective industry-academia relationship. The B. Tech course in Dyestuff Technology emphasizes the chemistry, technology and engineering of organic intermediates and colorants. The student leaves the Institute equipped with a working knowledge of laboratory synthesis, scaling up skills, key

manufacturing processes and analytical techniques.

Research Trends in the Department

Currently, the Department has a strong research program in the area of functional colorants for biological sensors, security applications, lasers, optical storage devices, solar devices, electronics, radiation heat insulating glass windows, synthesis of colorants using green methods, Nanotechnology, perfumes and flavor technology, carbohydrate chemistry and computational chemistry. The department is also very active in the field of green chemistry, namely the synthesis and applications of Ionic Liquids and Deep Eutectic Solvents (DES) for industrial applications

In addition, the Department undertakes research in the emerging applications of conventional colorants including high performance pigments, dyes for ink-jet printing, security colors and colorants for contact lenses. Research in conventional dyestuff chemistry (reactive and vats) and synthetic organic chemistry is also carried out. The Department currently has about 80 undergraduate and 60 research students.

In keeping with the tradition of the Institute, the Department maintains close ties with the Indian as well as International Colorants and Chemical industry by way of consulting assignments. In recent times, its reach has truly become global. The Department has also collaborated with CSIR laboratories, Universities from India and abroad.

About The Major Research Facilities

The Department is equipped with a functional organic synthesis laboratory. Facilities include:

500 MHz NMR instrument	FT-IR Instrument
Flash chromatography	Oven
Autoclaves, Hastelloy – 300 mL, 1 lit	Autoclaves, SS 316 – 3 x 600 mL, 5 lit
Parr hydrogenators – 300 mL, 600 mL	Pressure reactor
Incubator	Lyophilizer / Freeze dryer
Ice-Machine	Rotary evaporator

Events organized by Dyes Department

The Department of Dyestuff Technology organizes conferences, seminar and guest lectures every year in order to bridge the gap between industries and academia. The purpose of arranging such co –curricular activities enhances the exposure of the dyes and dyestuff manufacturing community to undergraduate and graduate students.

Dyes Department jointly organizes the International conference- "**Convention on Colorants (COC)**" biannually with DMAI (Dyestuff Manufacturers Association of India). The aim of the convention is to enhance cooperation between industry and academia. In the past five years three such conferences were organized namely COC 2011, COC 2013, COC 2015 and COC 2017.

In 2016, the department has started with a new concept of having an international symposium on ionic liquids to put forth a greener aspect of the chemistry to the world. On 21st and 22nd January 2016 ,the department had organized the **International Symposium on Ionic Liquids (ISOIL 2016)** in collaboration with Reliance industries Ltd. The focus was given on industrial applications of ionic liquids

Every year the department organizes a National Conference named "**National Symposium on Functional Application of Colorants" (NSFAC)**. The main focus is on high technology applications of colorants other than textiles and conventional uses. Till 2015 five such symposia were organized by the department.

The department has organised one day work shop on "**Technology Innovation in Dyes and Pigment (TIDP_2015)**" felicitating Prof. D.W. Rangnekar on account of his platinum jubilee celebration.

.

Apart from these technical events the department has been organizing "Dyes Day" since 2013, where all dyes alumni get chance to meet and have informal and formal discussions with each other. A panel discussion is organized where dyes alumni from industry share their experiences and help undergraduates to understand the current market status of dyes and chemical industries. The event ends with a cultural program where the students, faculty and alumni showcase their talent.

Along with this Department also organizes Memorial lecture series as a tribute to legends of department that includes K.V. Venkatraman lecture Kabbur Memorail lecture series, Dr. KKG Menon lecture etc.

The departmnt ensures a good blend of technology, chemistry, engineering and extracurricular skills.

COC 2013 and COC 2015

NSFAC

TIDP 2015

ISOIL 2016

Perfumery & Flavour technology

This interdisciplinary course came into existence since 1990. The program was then known as M.Sc(Tech) in Chemical Technology with specialization in Perfumery & Flavour Technology. The Industrial Body- Fragrance and Flavors Association of India (FAFAI) felt the need of technical manpower in this field and requested ICT (then UDCT) director Prof. M.M. Sharma for this course. It was funded by the FAFAI for the first 10 years since the genesis of the course. Other funding agencies include TEQIP, ICEOFF and Dr. R. Y. Mantri fellowship which began in 2015.

The quality of the training imparted to the students is reflected in the progress they are making in their individual careers. M.Tech in Perfumery & Flavour Technology is administered by the Department of Dyestuff Technology. Since this is an interdisciplinary course, faculties from different departments like Department of Food Engineering & Technology, Department of Oils, Oleochemicals & Surfactants Technology, Department of Pharmaceutical Sciences &Technology and Department of Chemical Engineering are involved in this program. Apart from the institute faculty there are many visiting faculties belonging to this industry that are associated with this course. This not only maintains a healthy academia industry interaction but also enlightens the students with opportunities available and the market scenario of this industry.

Doctoral programs in Perfumery & Flavour Technology is also offered by Department of Dyestuff Technology. Currently there are 8 recognized guides for the post graduate programs. There are 13 research fellows (12 M. Tech, 1 Ph. D) presently working on various projects like- green synthesis of perfumery & flavor molecules, extraction of essential oils from aromatic plants, creation of perfumes and flavor formulations, fragrance and flavor modifications- microemulsions & microencapsulation, slow release of perfumery and flavor chemicals, etc.

Under the successive leadership of highly experienced, talented and hard-working scientists and scholars, the program has trained more than 100 postgraduate students.

The program aims at “Empowering the knowledge of perfumery, flavors and cosmetics through learning a cutting-edge technology for the benefit of mankind”.
It will do so by:

- Educating students and professionals in the area of perfumery, flavour, cosmetic technology.
- Serving and upgrading 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.

1. **Year of establishment**:1944

2. **Is the Department part of a school/faculty of the university**?
   It is a separate department of the institute

3. **Names of Programmes offered (UG, PG, M.Phil., Ph.D., Integrated masters; Integrated Ph.D. etc.)**
   Ph. D. (Tech.) ,Integrated PhD (Tech), Ph. D. (Sci.), M.Sc. (Organic chemistry) and B.Tech (Dyestuff Technology) and M.Tech (Dyestuff Technology)

4. **Interdisciplinary programmes and departments involved**
   M.Tech (Perfumery and Flavour Technology) [Department of food engineering and technology, Department of Oils, Oleochemicals and surfactants technology, Department of Chemical Engineering]

   M.Tech (Green Technology) [Department of food engineering and technology, Department of Oils, Oleochemicals and surfactants technology, Department of Chemical Engineering]

5. **Courses in collaboration with other universities, industries, foreign institutions, etc.**
   None

6. **Details of programmes discontinued, if any, with reasons**
   None

7. **Examination system:** Semester
8. **Participation of the department in the courses offered by other departments**
   Various interdisciplinary courses with all other departments. Other department's subjects are offered as electives to our students subject to availability and eligibility

9. **Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/ Asst.Professors/others)**

   & MPS) Professor - 3 - Associate Professor - 0 -
   Asst. Professor - 3 -

   Others
   (Visiting Faculty)

   - 3 -

10. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of Experience Industrial/Academics	No. of Ph.D./M.Phil. students guided for the last 4 years
Prof .G.S. Shankarling	Ph.D. (Tech)	Professor	Green Chemistry	8/11	12
Prof. P.M.Bhate	Ph.D	Professor	Carbohydrate Chemistry	25/9	2
Prof. N.Sekar	Ph.D. (Tech)	Professor	Tinctorial Colorants	0/31	11
Dr. S.Some	Ph.D.	Assistant Professor	Synthesis of graphene derivatives and their functional applications	0/3.0	----
Dr. S.Saha	Ph.D.	Assistant Professor	Synthetic organic reactions and mechanistic investigatios	1/2.5	----
Dr. Nabanita Sadhukhan	Ph.D.	Assistant Professor	Inorganic chemistry	1/2.0	----

11. List of Senior Visiting fellows, Adjunct faculty, Emeritus Professors

Prof. Surendra Kulkarni (Honorary Professor – Dyestuff Technology)

Vijay Sane (Gharda Chemicals Ltd)

D.G.Udas (Entrepreneur, Ultra Conserve Ltd.)

12. **Percentage of classes taken by temporary faculty – programme-wise** information

All classes are taken by permanent or visiting faculty

13. Programme-wise student teacher ratio

For B.Tech (Dyes) [All years] - STR 1:14

For M.Tech (Dyes) [All years] - STR 1:1.4

14. **Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual [total staff {for Dyestuff technology Department-8)**

H.	R.	Fegade
InstrumentMechanic	S. B.	Sonawane
Senior LabAssistant	A. M.	Patil
Lab Assistant		
A.	R.	Rawool
LabAssistant.	S.	Chandiwade
Lab Attendant	P.B.	Rana
LabAttendant		

15. Research thrust areas as recognized by major funding agencies

Prof. G.S.Shankarling	1) Green Chemistry: Green chemistry and Technology mainly development of environmentally benign organic synthesis, Process chemistry, Catalytic system using enzyme for various Organic reaction, Preparation and application of
	2) Synthesis of chemosensors for detection of cations and anions.
	3) Studies in oxidation reactions
	4) Synthesis and Purification of Spectroscopic grade Cucurbituril[7] for high power aqueous dye laser applications
	5) Colorants for Dye Sensitized Solar cell (DSSC)
	6) Photochromics and Thermochromics colorants
	7) Development and characterization of selective coating for enhancement of radiation absorption of solar receivers.
	8) Ink jet colorants
	9) Flavour and perfumery Chemistry: Synthesis of novel Aroma chemicals

Prof. P.M.Bhate	1) Intramolecular Diels alder reactions in carbohydrate chemistry
	2) Synthesis of Fiber reactive dyes and vat dyes
	3) Natural product synthesis
Prof. N.Sekar	1) Stand-off detection of explosives based on immunochemical
	2) Advanced laser dyes with high quantum yield and high photostability
	3) Colored fluorescent conducting polymers for photovoltaic applications –
	4) NIR Fluorescent Colorants for Biological Imaging in biomedical diagnostics
	5) Synthesis of red emitting coumarin laser colorants
Dr. S.Some	1) Graphene supported chiral reagent
	2) Tunable laser properties of dye decorated graphene derivatives
Dr. S.Saha	1) Design and Synthesis of D-(pi-A) Type Dyes With Troger's Base Architecture: The Effect Of Molecular Topology On The Performance Of Dye-Sensitized Solar Cells (DSSC)
	2) Cooperative Organocatalysis for Enantioselective Transformations
Dr. Nabanita Sadhukhan	1) Inorganic Chemistry
	2) Monodisperse Polymer, Light responsive functional molecule

16. Number of faculty with ongoing projects from
a) National b) International funding agencies and c) Total grants received. give the Names of the funding agencies, project title and grants received project-wise.

Total amount granted to all faculty :- Rs 59181382 /-

Details of projects and other relevant information given in the table below:-

Sponsor	Title	Duration	Total amount (Rs.)	Principal Investigator	Research Fellows
AICTE-RPS	Synthesis of novel perimidine and quinaldine based NIR absorbing squarine dyes and study of their thermal and photophysical	3 Years	750000/-	Prof. G.S. Shankarling	Sushil khopkar

	Properties				
DAE-BRNS	Development and characterisation of selective coating for enhancement of radiation absorption of solar receivers.	2 Years	1,43,35,000/-	Prof. G.S. Shankarling/ Dr. V. D. Deshpande	Amruta Joglekar
DAE-BRNS	Synthesis and Purification of Spectroscopic grade Cuurbituril[7] for high power aqueous dye laser applications	3 Years	30,44,800 /-	Prof. G.S. Shankarling	Deepak Boraste
Essilor international	Development of IPP resistant blue dyes and UV absorber	1 year	26,00,000	Prof.G.S. Shankarling	Dr. Haribhau Kumbhar
Transition optical corporation ,USA	Synthesis of azo and anthraquinone dyes	2 years	2,015,000	Prof.G.S. Shankarling	Rishikant Sonune
Deepak Nitrite Ltd	Synthesis of optical brightening agents	2 years	9,50,000	Prof.G.S. Shankarling	Aanand Parashar

BRNS	Advanced laser dyes with high quantum yield and high Photostability	3 Years	21, 00,000	Professor N. Sekar	Mr. Ankush More (Junior Research Fellow), Mr. Shrikant Thakare (Junior Research Fellow)
Principal Scientific Advisor to GOI	Optimization studies with an alternate route for vinyl sulfones manufacture and development of novel vinylsulfones	3 Years	59,00000	Professor N. Sekar	Virendra Mishra (Junior Research Fellow) Chaitannya Waman Ghanavatkar (Junior

DST CERI	Colored Fluorescent conducting Oligomers/Monomers For Dye Sensitized Solar Cell	3 Years	88,78,099	Professor N. Sekar	Suryapratap J Sharma (Junior Research fellow)
DST-SERB	Phenonthroline-ly Coupled Tetracene Dimers-Novel Materials For Organic Electronics	3 Years	37,58,480	Professor N. Sekar	Zahir Ali Siddiqui (Junior Research Fellow)
WRA	Synthesis of water soluble fluorescent colorants for high visible hydrophilic textiles substrates	3 Years	19,17,000	Professor N. Sekar	Zeba N Khan (Junior Research Fellow)
Ministry of Textiles	Novel Reactive Dye System Based on Diazonium Salts		27,84,000	Prof.P.M.Bhate	Rajkumari Vijilata Devi
UGC	Graphene supported chiral reagent	3 Years	6,00,000	Dr. Surajit Some	Mr. Dattatray Appasha Pethsangave (Senior Research
BRNS	Tunable laser properties of dye decorated graphene derivatives	3 Years	27,78,000	Dr. Surajit Some	Mr.Rahul Vijay Khose (Junior Research Fellow)

SERB-DST	Synthesis of 3D, fixable heteroatom doped carbon based metal oxide containing nanocomposites for its high-performance supercapacitor application	3 Years	25,81,003	Dr. Surajit Some	Mr.Pravin Harishchandra Wadekar (Junior Research Fellow)
Science and Engineering Board of Research (SERB)	Design and Synthesis of D-(pi-A)2 Type Dyes With Troger's Base Architecture: The Effect Of Molecular Topology On The Performance Of Dye-Sensitized Solar Cells (DSSC)	3 Years	29,90,000	Dr. Satyajit Saha	Mr.Valmik Jejurkar
UGC-FRP	Cooperative Organocatalysis for Enantioselective Transformations	2 Years	6,00,000	Dr. Satyajit Saha	----
UGC	Synthesis and application of novel water soluble organic and inorganic small molecules		6,00,000	Dr.Nabanita Sadhukhan	-

17. Inter-Institutional Collaborative Projects and Associated Grants Received

National Collaborations

Prof. G. S. Shankarling

- Dr. Subam Sahoo, SVNIT, Gujarat.
- Dr. Hirendra Ghosh, BARC, Mumbai.
- Dr. Alok Ray, , BARC, Mumbai.
- Dr. Sandip Nayak, BARC, Mumbai.
- Dr. Shakti Vinay Shukla, Principle Director, Fragrance and Flavor Development Center (FFDC), Kannuaj, U.P

Prof. N. Sekar

- Dr.C.R.Suri (IMTech, Chandigarh)
- Dr. A.K.Paul (CSIO, Chandigarh)
- Dr. S.Panda (IIT, Kanpur)

Dr. Surajit Some

- Dr. Atul Chaskar (University of Mumbai).
- Dr. Alok Ray (BARC, Mumbai)

b) International Collaboration

Prof. G. S. Shankarling

- Dr. Douglas McFarlane and Dr. Vijay Raghavan, Monash University, Australia.

Prof. N. Sekar

- Dr. P. Ramasawmi (Mauritius University, Mauritius)

Dr. Surajit Some

•Prof. Hyoyoung Lee (SKU Korea).

•Prof. Seong Chan Jun (South Korea)

18. **Departmental Projects Funded by DST; UGC-SAP/CAS, DPE; DBT, CSIR, AICTE, etc.; total grants received.**

12 projects in total (Details given in the table above) Total funding granted – Rs. 59181382/-

19. Research facility / centre with

- State recognition - Nil
- National recognition - Nil
- International recognition – Nil

20. Special research laboratories sponsored by / created by industry or corporate bodies

None

21. Publications:

Details of papers published as given below:-

No.	Title and authors	Journal	Vol.	Pages	Year

1	Reversible ‘turn off’ fluorescence response of Cu2+ ions towards 2-pyridyl quinoline based chemosensor with visible colour change Priyanka More,G,S,Shankarling	Sensors and Actuators, B: Chemical	241	552-559	2017
2	A thiazoloquinoxaline based turn on chemodosimeter for detection of copper ions. Saurabh Deshpande,Sushil Khopkar,G.S.Shankarling	Dyes and pigments	147	393-399	2017
3	Process intensification of azo dyes G.S.Shankarling,Pratik Deshmukh,Amruta Joglekar	Journal of environmental chemical engineering	5	3302-3308	2017
4	Deep eutectic solvent / lipase :Two environmentally benigh and recyclable media for efficient synthesis of N-aryl amines Preeti Pant,G.S.Shankarling	Catalysis letters	147	1371-1378	2017
5	Solvatochromic fluorescence properties of phenothiazine-based dyes involving thiazolo[4,5-b]quinoxaline and benzo[e]indole as strong acceptors Saurabh Deshpande,Haribhau Kumbhar,G.S.Shankarling	Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy	174	154-163	2017
6	Metal-free oxidation of aldehydes to acids using the 4Na2SO42H2O2.NaCl adduct Eknath Gaikwad,Vilas Patil,G.S.Shankarling	Environmental Chemistry Letters		1-7	2017
7	Amberlyst-15 catalysed oxidative esterification of aldehydes usingH2O2 trapped Oxidant as terminal oxidant Eknath Gaikawad ,Vilas Patil,G.S.Shankarling				

8	An Effect of H-bonding in synthesis of 1,5-Diketones via Tandem Aldol-Michael Addition Reaction Using Room Temperature Ionic Liquid (RTIL) Sujit Kamble,G.S.Shankarling	Chemistry select		1917-1924	2017
9	Choline based ionic liquids and their applications in organic transformation Balu Gadilohar,G.S.Shankarling	Journal of Molecular Liquids	227	234-261	2017
10	Concentrated solar radiation aided energy efficient protocol for oxidation of alcohol using biodegradable task specific ionic liquid-choline peroxydisulfate Balu Gadilohar,Saurabh Deshpande,Dipak Pinjari,G.S.Shankarling	Solar Energy	139	328-336	2017
11	Photoswitchable conjugated assembly involving fluorescent boranil Saurabh Deshpande ,Haribhau Kumbhar.G.S.Shankarling	Journal of Luminescence	179	314-321	2017
12	Dihydroquinazolinone based “turn-off” fluorescence sensor for detection of Cu2+ ions Pravin Borase,Pranila Thale,G.S.Shankarling	Dyes and Pigments	134	276-284	2016
13	A "turn on" fluorescent and chromogenic chemosensor for fluoride anion: Experimental and DFT studies Pranila Thale,Pravin Borase,G.S.Shankarling	Inorganic Chemistry Frontiers	3	977-984	2016
14	An Energy Efficient Sonochemical Selective Oxidation of Benzyl Alcohols to Benzaldehydes by Using Bio-TSIL Choline Peroxydisulfate Balu Gadilohar,Dipak Pinjari, G.S.Shankarling	Industrial and Engineering Chemistry Research	55	4797-4802	2016

15	Novel, solid-state, highly fluorescent β-ketoiminate spiroborates with aggregation induced emission Haribhau Kumbhar,Saurabh Deshpande,G.S.Shankarling	Dyes and Pigments	127	161-169	2016
16	M-CPBA mediated metal free, rapid oxidation of aliphatic amines to oximes Vilas Patil,Eknath Gaikwad.G.S.Shankarling	Journal of Organic Chemistry	81	781-786	2016
17	Exciton delocalization and hot hole extraction in CdSe QDs and CdSe/ZnS type 1 core shell QDs sensitized with newly synthesized thiols P.Singhal,Prashant Ghorpade,G.S.shankarling,R.Tripathi,H.Ghosh	Nanoscale	8	1823-1833	2016
18	A choline hydroxide catalyzed synthesis of 2,3-dihydroquinazolin-4(1: H)-ones in an aqueous medium Pravin Borase ,Pranila Thale,G.S.Shankarling	RSC Advances	67	63078-63083	2016
19	Nonanebis(peroxoic acid) mediated efficient and selective oxidation of sulfide Eknath Gaikawad ,Vilas Patil,G.S.Shankarling	New Journal of Chemistry	40	223-230	2016
20	Synthesis, characterisation, and study of the photophysical properties of highly stable imidazole-based novel solid-state fluorescent azo colourants Preetam N. Moolya, Balu L. Lohar, Ganapati S. Shankarling	Coloration Technology	131	104-109	2015

21.	Aggregation induced emission (AIE) active β-ketoiminate boron complexes: Synthesis, photophysical and electrochemical properties Haribhau S. Kumbhar, Ganapati S. Shankarling	Dyes and Pigment	122	85-93	2015
22	Synthesis and photophysical study of novel coumarin based styryl dyes	Dyes and Pigments	120	190-199	2015

	AK Sanap, KK Sanap, GS Shankarling				
23	An “off–on” colorimetric chemosensor for selective detection of Al 3+, Cr 3+ and Fe 3+: Its application in molecular logic gate PN Borase, PB Thale, SK Sahoo, GS Shankarling	Sensors and Actuators B: Chemical	215	451-458	2015
24.	Steric hindrance induced regio and chemo selective oxidation of aromatic amine. VV Patil, GS Shankarling	Journal of Organic Chemistry	-	-	2015
25.	Synthesis and spectroscopic study of highly fluorescent β-enaminone based boron complexes HS Kumbhar, BL Gadilohar, GS Shankarling	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	146	80-87	2015
26.	Restriction of Molecular Twisting on a Gold Nanoparticle Surface T Debnath, J Dana, P Maity, H Lobo, GS Shankarling, HN Ghosh	Chemistry-A European Journal	21	5704-5708	2015
27.	Energy efficient, clean and solvent free photochemical benzylic bromination using NBS in concentrated solar radiation (CSR) S Deshpande, B Gadilohar, Y Shinde, D Pinjari, A Pandit, G Shankarling	Solar Energy	113	332-339	2015
28.	Highly efficient and stable peracid for rapid and selective oxidation of aliphatic amines to oximes V V Patil, EM Gayakwad, G S Shankarling	New Journal of Chemistry	39	6677-6682	2015
29.	Maleimide fused boron–fluorine complexes: synthesis, photophysical and electrochemical properties PB Thale, PN Borase, GS Shankarling	Dalton Transactions	-	-	2015
30.	Photophysical and thermal properties of novel solid state fluorescent benzoxazole based styryl dyes from a DFT study UN Yadav, HS Kumbhar, SS Deshpande, SK Sahoo, GS Shankarling	RSC Advances	5	42971-42977	2015

31.	Choline peroxydisulfate oxidizing Bio-TSIL: triple role player in the one-pot synthesis of Betti bases and gem-bisamides from aryl alcohols under solvent-free conditions BL Gadilohar, H S Kumbhar, G S Shankarling	New Journal of Chemistry	-	-	2015
32.	Environmentally benign synthesis of 4-aminoquinoline-2-ones using recyclable choline hydroxide AK Sanap, GS Shankarling	New Journal of Chemistry	39	206-212	2015
33.	A metal free, eco-friendly protocol for the synthesis of 2, 3-dihydro-1H-perimidines using commercially available Amberlyst 15 as a catalyst VV Patil, GS Shankarling	Catalysis Communications	57	138-142	2014
34.	A highly selective fluorescent chemosensor based on thio-β-enaminone analog with a turn-on response for Cu (II) in aqueous media HS Kumbhar, UN Yadav, BL Gadilohar, GS Shankarling	Sensors and Actuators B: Chemical	203	174-180	2014
35.	Choline Peroxydisulfate: Environmentally Friendly Biodegradable Oxidizing TSIL for Selective and Rapid Oxidation of Alcohols BL Gadilohar, HS Kumbhar, GS Shankarling	Industrial & Engineering Chemistry Research	53	19010-19018	2014
36.	In Situ Generated Cetyltrimethylammonium Bisulphate in Choline Chloride–Urea Deep Eutectic Solvent: A Novel Catalytic System for One Pot Synthesis of 1, 3, 4-Oxadiazole PA More, BL Gadilohar, GS Shankarling	Catalysis Letters	144	1393-1398	2014
37.	Synergistic effect of ultrasound and deep eutectic solvent choline chloride–urea as versatile catalyst for rapid synthesis of β-functionalized ketonic derivatives UN Yadav, GS Shankarling	Journal of Molecular Liquids	195	188-193	2014
38.	Quinoline-based chemosensor for fluoride and acetate: A combined	Sensors and Actuators B:	197	73-80	2014

	experimental and DFT study UN Yadav, P Pant, D Sharma, SK Sahoo, GS Shankarling	Chemical			

39.	Nonanebis (peroxoic acid): a stable peracid for oxidative bromination of aminoanthracene-9, 10-dione VV Patil, GS Shankarling	Beilstein journal of organic chemistry	10	921-928	2014
40.	Eco-friendly and recyclable media for rapid synthesis of tricyanovinylated aromatics using biocatalyst and deep eutectic solvent AK Sanap, GS Shankarling	Catalysis Communications	49	58-62	2014
41.	Room temperature ionic liquid choline chloride–oxalic acid: A versatile catalyst for acid-catalyzed transformation in organic reactions UN Yadav, GS Shankarling	Journal of Molecular Liquids	191	137-141	2014
42.	Extensive Reduction in Back Electron Transfer in Twisted Intramolecular Charge-Transfer (TICT) Coumarin-Dye-Sensitized TiO2 Nanoparticles/ Film: A Femtosecond Transient Absorption Study T Debnath, P Maity, H Lobo, B Singh, GS Shankarling, HN Ghosh	Chemistry-A European Journal	20	3510-3519	2014
43.	Spectroscopy and laser characterization of synthesized supramolecular host cucurbit [7] uril using aqueous Rhodamine B dye DR Boraste, M Gupta, G Shankarling, AK Ray, SK Nayak	Pramana	82	271-275	2014
44.	Magnetic nanocatalyst for the synthesis of maleimide and phthalimide derivatives PB Thale, PN Borase, GS Shankarling	RSC Advances	4	59454-59461	2014
45.	A novel colorimetric and fluorogenic chemosensor for selective detection of Cu 2+ ions in mixed aqueous media UN Yadav, P Pant, SK Sahoo, GS Shankarling	RSC Advances	4	42647-42653	2014
46.	Choline chloride based eutectic solvents: direct C-3 alkenylation/ alkylation of indoles with 1,	RSC Advances	4	34938-34943	2014

	3-dicarbonyl compounds AK Sanap, GS Shankarling				
47	Red emitting NLO phoric 3-styryl coumarins ; Experimental and computational studies. Tathe A.,Sekar N.	Optical materials	51	121-127	2016
48	Aggregation induced emissive carbazole-based push-pull NLO phores ; synthesis,photophysical properties and DFT studies. Lanke s.,Sekar N.	Dyes and pigments	124	82-92	2016
49	A new type of triphenylamine based coumarine-rhodamine hybrid compound ; synthesis,Photophysical properties,Viscosity sensitivity and energy transfer. Kothavale S.,Sekar N.	RSC ADVANCES	6(107)	105387-105397	2016
50	Synthesis and optical response to acids and bases of a new styryl—dihydro-benzo[a]phenazine chromophores Patil, S.R., Choudhary, A.S., Sekar, N.	Tetrahedron	72(49)	7968-7974	2016
51	Acridine-1, 8-diones – A new class of thermally stable NLOphores: Photophysical, (hyper)polarizability and TD-DFT studies Thorat, K.G., Tayade, R.P., Sekar, N.	Optical Materials	62	306-319	2016
52	Indole-Based NLOphoric Donor-π-Acceptor Styryl Dyes: Synthesis, Spectral Properties and Computational Studies Chemate, S., Sekar, N.	Journal of Fluorescence	26 (6),	2063-2077	2016
53	NLOphoric and solid state emissive BODIPY dyes containing N-phenylcarbazole core at meso position – Synthesis, photophysical properties of and DFT studies Telore, R.D., Jadhav, A.G., Sekar, N.	Journal of Luminescence	179,	420-428	2016

54	Synthesis of triazine based dialdehyde Schiff's base – new templates for Molecular Imprinting and study of their structural and photophysical properties Padalkar, V.S., Tathe, A.B., Sekar, N.	Arabian Journal of Chemistry	9,	1793-1800	2016
55	Novel Rhodafluors: Synthesis, Photophysical, pH and TD-DFT Studies Patil, S.S., Thorat, K.G., Mallah, R., Sekar, N	Journal of Fluorescence	26 (6)	2187-2197	2016
56	Synthesis and antimicrobial activity of novel 2-substituted benzimidazole, benzoxazole and benzothiazole derivatives Padalkar, V.S., Borse, B.N., Gupta, V.D., Phatangare, K.R., Patil, V.S., Umape, P.G., Sekar, N.	Arabian Journal of Chemistry	9	S1125-S1130	2016
57	Solvatochromism, halochromism, and azo–hydrazone tautomerism in novel V-shaped azo-azine colorants – consolidated experimental and computational approach Choudhari, A.S., Patil, S.R., Sekar, N.	Coloration Technology	132 (5)	387-398.	2016
58	Solvent-Driven Conformational Exchange for Amide-Linked Bichromophoric BODIPY Derivatives Thakare, S., Stachelek, P., Mula, S., More, A.B., Chattopadhyay, S., Ray, A.K., Sekar, N., Ziessel, R., Harriman, A.	Chemistry - A European Journal	22 (40)	14356-14366	2016
59	Resonance induced proton transfer leading to NIR emission in coumarin thiazole hybrid dyes: Synthesis and DFT insights Shreykar, M.R., Sekar, N	Tetrahedron Letters	57 (37)	4174-4177	2016
60	Comprehensive DFT and TD-DFT Studies on the Photophysical Properties of 5,6-Dichloro-1,3-Bis(2-Pyridylimino)-4,7-Dihydroxyisoindole: A New Class of ESIPT Fluorophore Kataria, S., Rhyman, L., Ramasami, P., Sekar, N.	Journal of Fluorescence	26 (5),	1805-1812	2016

61	Synthesis and Antimicrobial Activities of Novel 2-[substituted-1H-pyrazol-4-yl] Benzothiazoles, Benzoxazoles, and Benzimidazoles Padalkar, V.S., Borse, B.N., Gupta, V.D., Phatangare, K.R., Patil, V.S., Sekar, N.	Journal of Heterocyclic Chemistry	53 (5)	1347-1355	2016
62	Solvatochromism, halochromism, and azo–hydrazone tautomerism in novel V-shaped azo-azine colorants – consolidated experimental and computational approach Choudhari, A.S., Patil, S.R., Sekar, N.	Coloration Technology	132 (5)	387-398	2016
63	Solvent-Driven Conformational Exchange for Amide-Linked Bichromophoric BODIPY Derivatives Thakare, S., Stachelek, P., Mula, S., More, A.B., Chattopadhyay, S., Ray, A.K., Sekar, N., Ziessel, R., Harriman, A.	Chemistry - A European Journal,	22 (40)	14356-14366.	2016
64	Resonance induced proton transfer leading to NIR emission in coumarin thiazole hybrid dyes: Synthesis and DFT insights Shreykar, M.R., Sekar, N.	Tetrahedron Letters	57 (37)	4174-4177	2016
65	Comprehensive DFT and TD-DFT Studies on the Photophysical Properties of 5,6-Dichloro-1,3-Bis(2-Pyridylimino)-4,7-Dihydroxyisoindole: A New Class of ESIPT Fluorophore Kataria, S., Rhyman, L., Ramasami, P., Sekar, N	Journal of Fluorescence	26 (5)	1805-1812	2016
66	Synthesis and Antimicrobial Activities of Novel 2-[substituted-1H-pyrazol-4-yl] Benzothiazoles, Benzoxazoles, and Benzimidazoles Padalkar, V.S., Borse, B.N., Gupta, V.D., Phatangare, K.R., Patil, V.S., Sekar, N.	Journal of Heterocyclic Chemistry	53 (5)	1347-1355	2016
67	Dispersant-free disperse dyes for polyester an eco-friendly approach Meena, C.R., Maiti, S., Sekar, N., More, S., Adivarekar, R.V	Journal of the Textile Institute	52	1-6	2016

68	Red and near-infrared emitting bis-coumarin analogues based on curcumin framework-synthesis and photophysical studies Margar, S.N., Sekar, N.	Journal of Photochemistry and Photobiology A: Chemistry	327	58-70	2016
69	Novel 2H-pyran-3-carbonitrile dyes - Synthesis, solvatochromism study, and DFT, TD-DFT computations Tayade, R.P., Sekar, N.	Journal of Luminescence	176	298-308	2016
70	Fluorescent difluoroboron-curcumin analogs: An investigation of the electronic structures and photophysical properties Margar, S.N., Rhyman, L., Ramasami, P., Sekar, N	Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy	152, art. no. 13963,	pp. 241-251	2016
72	NLOphoric Carbazole-Containing Push-Pull Extended Styryl Chromophores: Study of Photophysical Properties by Solvatochromic and DFT Method Telore, R.D., Sekar, N.	Journal of Fluorescence	26 (4)	1261-1270	2016
73	Red Emitting Coumarin—Azo Dyes : Synthesis, Characterization, Linear and Non-linear Optical Properties-Experimental and Computational Approach Tathe, A.B., Sekar, N.	Journal of Fluorescence	26 (4)	1279-1293	2016
74	Nonlinear optical properties of curcumin: solvatochromism-based approach and computational study Margar, S.N., Sekar, N.	Molecular Physics	114 (12)	1867-1879	2016
75	Carbazole-containing push-pull chromophore with viscosity and polarity sensitive emissions: Synthesis and photophysical properties Telore, R.D., Sekar, N.	Dyes and Pigments	129	1-8	2016
76	Red-emitting NLOphoric carbazole-coumarin hybrids-Synthesis, photophysical properties and DFT studies Tathe, A.B., Sekar, N	Dyes and Pigments	129	174-185	2016

77	Unfolding ESIPT in Bis-2,5-(2-benzoxazolyl) Hydroquinone and 2,5-Bis(benzo[d]oxazol-2-yl)-4-methoxyphenol: a Comprehensive Computational Approach Jadhav, M.M., Rhyman, L., Ramasami, P., Sekar, N.	Journal of Fluorescence		pp. 1-13	2016
78	Novel NLOphoric 2-methoxy carbazole-based push pull chromophores: Synthesis, photophysical properties and TD-DFT Study Lanke, S.K., Sekar, N.	Journal of Photochemistry and Photobiology A: Chemistry ,	321	pp. 63-71	2016
79	Coumarin Push-Pull NLOphores with Red Emission: Solvatochromic and Theoretical Approach Lanke, S.K., Sekar, N	Journal of Fluorescence	26 (3),	pp. 949-962	2016
80	Benzimidazole-thiazole based NLOphoric styryl dyes with solid state emission - Synthesis, photophysical, hyperpolarizability and TD-DFT studies Tayade, R.P., Sekar, N	Dyes and Pigments	128,	pp. 111-123	2016
81	Pyrazole based NLOphores: Synthesis, photophysical, DFT, TDDFT studies Lanke, S.K., Sekar, N	Dyes and Pigments	127,	pp. 116-127	2016
82	AIE Based Coumarin Chromophore-Evaluation and Correlation between Solvatochromism and Solvent Polarity Parameters Lanke, S.K., Sekar, N.	Journal of Fluorescence	26 (2),	pp. 497-511	2016
83	NLOphoric Red Emitting Bis Coumarins with O-BF-2-O core-Synthesis, Photophysical Properties and DFT Studies Tathe, A.B., Sekar, N	Journal of Fluorescence	26 (2),	pp. 471-486	2016
84	Pyrazole based solid state emissive NLOphores with TICT characteristics: Synthesis, DFT and TDDFT studies Lanke, S.K., Sekar, N.	Dyes and Pigments	126	62-75	2016

85	Light fast monoazo dyes with an inbuilt photostabilizing unit: Synthesis and computational studies Bhide, R., Jadhav, A.G., Sekar, N.	Fibers and Polymers	17 (3)	349-357	2016
86	A new type of triphenylamine based coumarin-rhodamine hybrid compound: Synthesis, photophysical properties, viscosity sensitivity and energy transfer Kothavale, S., Sekar, N.	RSC Advances	6 (107),	105387-105397	2016
87	Novel triphenylamine based rhodamine derivatives: Synthesis, characterization, photophysical properties and viscosity sensitivity Kothavale, S., Sekar, N.	RSC Advances	6 (102)	100271-100280	2016
88	Red emitting NLOphoric 3-styryl coumarins: Experimental and computational studies Tathe, A.B., Sekar, N	Optical Materials	51	121-127	2016
	Aggregation induced emissive carbazole-based push pull NLOphores: Synthesis, photophysical properties and DFT studies Lanke, S.K., Sekar, N	Dyes and Pigments	124	82-92	2016
90	Acridine derivative as a "turn on" probe for selective detection of picric acid: Via PET deterrence Chemate, S., Erande, Y., Mohbiya, D., Sekar, N	RSC Advances	6 (87)	84319-84325	2016
91	NIR-emitting quinone-fused coumarin dyes: aqueous mediated, catalyst free synthesis and their optical properties Patil, S.R., Choudhary, A.S., Sekar, N.	Tetrahedron Letters	57 (29)	3100-3104	2016
92	A Lawsone-DAMN based colorimetric chemosensor for rapid naked-eye detection of mercury(II) Patil, S.R., Choudhary, A.S., Sekar, N.	New Journal of Chemistry	40 (8)	6803-6811	2016

93.	Push-Pull fluorophores with viscosity dependent and aggregation induced emissions insensitive to polarity, Rahul D Telore, Manjaree A Satam, Nagaiyan Sekar	Dyes and Pigments	122	359-367	2015
94.	Disperse Styryl and Azo Dyes for Polyester and Nylon Fibre: Synthesis, Optical Properties Having the 1,2,4-triketo Naphthoquinone Skeleton Sharad R. Patil, Amol S. Choudhary, and Nagaiyan Sekar	Fibers and Polymers	19 (5)	1068 – 1074	2015
95	A new rhodamine based OFF-ON fluorescent chemosensors for selective detection of Hg2+ and Al3+ in aqueous media Santosh Chemate, Nagaiyan Sekar	Sensors & Actuators: B. Chemical	220	1196–1204	2015
96.	Novel pyrromethene dyes with N-ethyl carbazole at the meso position: a comprehensive photophysical, lasing, photostability and TD-DFT study Kishor G. Thorat, Priyadarshani Kamble, Alok K. Ray and Nagaiyan Sekar	Phys. Chem. Chem. Phys	17	17221-17236	2015
97.	Congeners of Pyrromethene-567 Dye: Perspectives from Synthesis, Photophysics, Photostability, Laser, and TD-DFT Theory Kishor G. Thorat, Priyadarshani Kamble, Ramnath Mallah, Alok K. Ray, Nagaiyan Sekar	J. Org. Chem.	80	6152−6164	2015
98.	N-2-Aryl-1,2,3-Triazoles: A Novel Class of Blue Emitting Fluorophores-Synthesis, Photophysical Properties Study and DFT Computations Vikas S. Padalkar, Sandip K. Lanke, Santosh B. Chemate, Nagaiyan Sekar	Journal of Fluorescence	42	3287-32	2015

99.	Synthesis and combined experimental and computational investigations on spectroscopic and photophysical properties of red emitting 3-styryl coumarins Tathe, A.B., Gupta, V.D., N.Sekar.	Dyes and Pigments	119	49-55	2015

100.	Novel pyrromethene dyes with N-ethyl carbazole at the meso position: a comprehensive photophysical, lasing, photostability and TD-DFT study Thorat, K.G., Kamble, P., Ray, A.K., Sekar, N.	Physical Chemistry Chemical Physics	17(26)	17221-17236	2015
101.	Congeners of pyrromethene-576Dye Perspectives from synthesis, Photophysics, Photostability,Laser & TD-DFT theory Thorat, K.G., Kamble, P., Mallah,R,,Ray, A.K., Sekar, N.	Journal of Organic Chemistry	80(12)	6152-6164	2015
102.	Disperse styryl and azo dyes for polyester and nylon fiber,Synthesis, Optical properties having the 1,2,4-triketo naphthoquinone skeleton Patil,S.R., Choudhary, A.S., Sekar.N.	Fibers & Polymers	16(5)	1068-1074	2015
103.	Condensation pigments for pigment priting of cotton-synthesis,Photophysical properties,TD-DFT Studies Choudhary, A.S., Patil. S. R, Sekar .N.	Fibers & Polymers	16(4)	809-818	2015
104.	DFT Studies of the photophysical properties of fluorescent and semiconductor polycyclic Benzimidazole derivatives. Warde,U., Rhyman, L., Ramasami, P., Sekar, N.	Journal of Fluorescence	25	685–694	2015

105.	Phenazine fused Benzo coumarins with Negative solvatochromic emission – synthesis , photophysical properties , DFT and TD-DFT studies. Choudhary,A.S., Sekar.N.	Journal of Fluorescence	25	675–684	2015
106.	Photophysical properties of ESIPT inspired fluorescent 2-(2-Hydroxyphenyl)-6-methylimidazo [4,5-f]isoindole -5,7(1H,6H)-dione and it's derivatives ; experimental and DFT based approach. Deshmukh, M.S., Sekar, N.	Spectrochimica Acta – Part A ; Molecular and Biomolecular spectroscopy	135	457-465	2015
107.	Chemiluminescence properties of luminol related quinoxaline analogs ;	Dyes and Pigments	117	49-60	2015

	Experimental and DFT based approach to photophysical properties. Deshmukh,M.S.,Sekar,N.				
108.	Environment-sensitive benzoxazole based fluorescein derivatives ; synthesis and application to the design of ON-OFF fluorescent chemosensors for microenvironment. Patil,V.,Padalkar,V.,Sekar,N	Journal of Luminescence	158	243-251	2015
109.	Masking and Demasking Strategies for the BF2−BODIPYs as a Tool for BODIPY Fluorophores Ankush B. More, Soumyaditya Mula, Shrikant Thakare, Nagaiyan Sekar, Alok K. Ray, Subrata Chattopadhyay	J. Org. Chem.,	79 (22)	10981–10987	2014
110.	A combined experimental and TD-DFT investigation of three disperse azo dyes having the nitroterephthalate skeleton Mininath S. Deshmukh, Nagaiyan Sekar,	Dyes and Pigments	103	25-33	2014
111	A comprehensive spectroscopic and computational investigation of intramolecular proton transfer in the excited states of 2-(2′-hydroxyphenyl) benzoxazoleanditsderivatives, Vikas S.Padalkar, Ponnadurai Ramasami, and Nagaiyan Sekar	J Luminescence	146	527-538	2014
112	Synthesis of novel styryl derivatives from 4-chloro-2-(morpholin-4-yl)-1,3-thiazole-5-carbaldehyde, study of their photophysical properties and TD-DFT computations, Nagaiyan Sekar, Prashant G.Umape, Vikas S.Padalkar, Rajratna P.Tayade, and Ponnadurai Ramasami	J Luminescence	150	8–18	2014
113	Synthesis of novel dipodal-benzimidazole, benzoxazole and benzothiazole from cyanuric chloride: Structural, photophysical and antimicrobial studies, Vikas S. Padalkar, Vinod D. Gupta, Kiran R. Phatangare, Vikas S. Patil,Prashant G. Umape, N. Sekar,	Journal of Saudi Chemical Society	18	262–268	2014

114	Phenazines and Thiazine: Green Synthesis, Photophysical Properties and Dichroic Behavior in Nematic Host Amol S. Choudhary1, Manoj K. Malik2, Sharad R. Patil1, K. H. Prabhu3, Rajendra R. Deshmukh2, and Nagaiyan Sekar	Canadian Chemical Transactions	4	365-380	2014
115	A Comprehensive Spectroscopic and Computational Investigation of Intramolecular Proton Transfer in the Excited States of 2-(2'-Hydroxyphenyl) Benzoxazole and its Derivatives Vikas Padalkar, Ponnadurai Ramasami, N. Sekar	J of Luminescence	146	527-538	2014
116	Photophysical properties of Schiff's bases from 3-(1,3-benzothiazol-2-yl)-2-hydroxy naphthalene-1-carbaldehyde Manjaree A. Satam, Rahul D. Telore, Nagaiyan Sekar	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	132	678-686	2014
117	Photophysical Properties of ESIPT Inspired Fluorescent 2-(2-hydroxyphenyl)-6-methylimidazo[4,5-f]isoindole-5,7(1H,6H)-dione and its Derivative: Experimental and DFT based approach N. Sekar, Mininath S Deshmukh	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	135	457–465	2014
118	Synthesis of novel styryl derivatives from 4-chloro-2-(morpholin-4-yl)-1,3-thiazole-5-carbaldehyde, Study of their photophysical properties and TD-DFT computations. Nagaiyan Sekar, Prashant G. Umape, Vikas S. Padalkar, Rajratna P. Tayade, Ponnadurai Ramasami	Journal of Luminescence	150	18-Aug	2014
119	A Comprehensive Spectroscopic and Computational Investigation of Intramolecular Proton Transfer in the Excited States of 2-(2'-Hydroxyphenyl) Benzoxazole and its Derivatives Vikas Padalkar, Ponnadurai Ramasami, N. Sekar	J of Luminances	146	527–538	2014

120	A novel reactive dye system based on diazonium salts Bhate P.M, Devi R.V,Dugane R,Vaidya S,Masand S	Dyes and pigments	145	208-215	2017
121	Practical preparation of mono and dye O-isopropyledine derivatives of monosaccharides and methyl 4,6-O-benzyledine glycosides from free sugar in deep eutectic solvent Rokade S.M,Bhate P.M	Journal of carbohydrate chemistry	36(1)	20-30	2017
122	Synthesis of Isoindolo[2,1-*a*]quinazoline, Isoindolo[2,1-*a*]pyrrolo [2,1-*c*]quinoxalinone, and Indolo[1,2-*a*]isoindolo[1,2-*c*]quinoxalinone Derivatives in a Deep Eutectic Solvent Devi R.V,Garande A.M,Bhate P.M	Synlet	27(20)	2807-2810	2016
123	Ferrier reaction in deep eutectic solvents Rokade S.M,Bhate P.M	Carbohydrate research	415	28-30	2015
126	Acid- and metal-free synthesis of annulated pyrroles in deep eutectic solvent. Sunil M. Rokade, Ashok M. Garande, Nazim A.A. Ahmad, Prakash M. Bhate	RSC Advances	5	2281 - 2284	2015
127	Ferrier Reaction in deep eutectic solvent. Sunil M. Rokade and Prakash M. Bhate	Carbohydrate Research	415	28-30	2015
124	Catalyst- and chromatography-free synthesis of pyrrole-substituted indolinone derivatives in water. Nazim A.A. Ahmad, Sunil M. Rokade, Ashok M. Garande, Prakash M. Bhate	Tetrahedron Letters	55	5458-61	2014
125	A facile and practical one-pot synthesis	RSC Advances	4	34056-	2014

128	Deep Eutectic Solvent Functionalized Graphene Composite as an Extremely High Potency Flame Retardan. Dattatray Appasha Pethsangave, Rahul Vijay Khose, Pravin Harishchandra Wadekar, and Surajit Some	ACS. Applied Materials & Interfaces	9 (40)	35319-35324	2017
129	Ultrasound-Promoted Enantioselective Decarboxylative Protonation of α Aminomalonate Hemiesters by Chiral Squaramides: A Practical Approach to Both Enantiomers of α-Amino Esters. Surajit Some,Han Yong Bae,Mun Jong Kim,Yong Jian Zhang and Choong Eui Song.	Eur. J. Org. Chem		4562–4565	2017
130	Graphene Derivative As a Highly Efficient Nitrosonium Source: A Reusable Catalyst for Diazotization and Coupling Reaction. Dattatray A. Pethsangave, Rahul V. Khose, Atul C. Chaskar, Seong Chan Jun, and Surajit Some.	Chemistry Select	1	6933 – 6940	2016
131	Graphene-Iodine Nanocomposites: Highly Potent Bacterial Inhibitors that are Bio-compatible with Human Cells. Some S, Sohn JS, Kim J, Lee SH, Lee SC, Lee J, Shackery I, Kim SK, Kim SH, Choi N, Cho IJ, Jung HI, Kang S, Jun SC	Sci. Rep.	6	20015	2016
132	Phosphorus-doped graphene oxide layer as a highly efficient flame retardant Surajit Some, Iman Shackery, Sun Jun Kim and Seong Chan Jun	Chem. A Euro. J.	7	11235-11237	2015
133	Efficient Direct Reduction of Graphene Oxide by Silicon Substrate Su Chan Lee, Surajit Some, Sung Wook Kim, Sun Jun Kim, Jungmok Seo, Jooho Lee, Taeyoon Lee, Jong-Hyun Ahn, Heon-Jin Choi & Seong Chan Jun	Sci. Rep.	5	12306-12314	2015
134	Highly Sensitive Enzymeless Glucose Detection by Nickel Hydroxide/3D	Electroanalysis	27		2015

	Graphene- Electrode Iman Shackery, Umarkant Patil, Sachin Kulkarni, Surajit Some, Su chan Lee, Min Sik Nam, Seong Chan Jun				
135	Tunable Wide Blue Emission with Europium-Decorated Graphene Flake Byeongho Park, Ji-eun Park, Surajit Some, Juhwan Lim, Sung-Jin Kim, Seong Chan Jun	J. Mat. Chem. C	3	4030- 4038	2015

136	Directing Group Assisted Nucleophilic Substitution Of Propargylic Alcohols Via Ortho Quinone Methide Intermediate- Bronsted Acid Catalyzed Highly Enantioselective Synthesis Of N-Acetamido Alkenyl Tetrahydroxanthenes. A. Satyajit Saha and Christoph Schneider	Org. Lett.	17	648-652	2015
137	Chiral Brønsted Acid-Catalyzed Friedel-Crafts Alkylation of Electron-Rich Arenes with in situ-Generated Ortho-Quinone Methides: Highly Enantioselective Synthesis of Diarylindolylmethanes and Triarylmethanes. B. Satyajit Saha, Santosh Kumar Alamsetti and Christoph Schneider	Chem. Commun	51	1461-1464	2015
138	Brønsted Acid-Catalyzed, Highly Enantioselective Addition of Enamides to in situ-Generated Ortho-Quinone Methides–A Domino Approach Towards the Direct Synthesis of Complex Acetamidotetrahydroxanthenes C. Satyajit Saha and Christoph Schneider	Chem. Eur	21	2348-2352	2015

BooK Chapter:

Prof. G. S. Shankarling

- Culture of Indigo in Asia, Dr. G. S Shankarling, Niyogi Books, pp. 122-134, New Delhi, 2014

- An article titled 'Organic Photochromic dyes with commercial values' by Saurabh Deshpande, Ganapati Shankarling has been published in DMAI newsletter in the September issue.

- An article entitled 'OrgaincThermnochromic dyes with commercial value'by Saurabh Deshpande, Ganapati Shankarling has been published in DMAI newslewtter in the October issue.

- An article entitled 'Speciality inkjet colorants for LCD display filters' by Amruta Joglekar, Ganapati Shankarling has been published in DMAI newsletter in August issue.

- An article entitled Speciality inkjet colorants for ceramics' by Amruta Joglekar, Ganapati Shankarling has been published in DMAI newsletter in August issue.

- Recent developments in textile dyes, pigments and pollution abatement, Ganapati Shankarling, Urmila yadav, Glen Gonsalves, Recent Patents on Materials Science, Vol 6, 120-139 (2013)

- Feedstock Available for manufacturing Aroma Chemicals in India, Ganapati Shankarling Anita Ghuge, Balu Gadilohar, Haribhau Kumbhar , The FAFAI Journal ,Vol XIV No.1 March (2012).

Prof. N. Sekar

- Direct Dyes in Handbook of textile and industrial dyeing (Ed: M Clark), Woodhead Publishing, UK, 2011

- Acid Dyes in Handbook of textile and industrial dyeing (Ed: M Clark), Woodhead Publishing, UK, 2011

H-Index and Citations:

Faculty Name	H-Index	Citations
Prof. G. S. Shankarling	17	798
Prof. P.M.Bhate	04	124
Prof. N.Sekar	18	929
Dr. S.Some	17	635
Dr. S.Saha	09	330

Dr. Nabanita Sadhukhan	09	230

22. Details of Patents and Income generated

Recent Patent details are given in the table below

No.	Inventors	Title	Country	Funding agency
1.	G.S.Shankarling,Deepak Boraste	Process for preparing Cucurbituril in high yield	India	
2	G.S.Shankarling,Amruta Joglekar	Synthesis of copper phthalocyanine using deep eutectic solvent	India	
3	G. S. Shankarling, Yogesh Sonawane, Krishna J. Jarag, Poonam M. Pawar, Sunanda Phadtare, Rishad Bumgara, Hyacinta R. Lobo, Balvant	A class of quaternary ammonium catalysts	India	
4.	G. S. Shankarling, Krishna J. Jarag	Styryl molecules based on substituted-1,4-diphenethyl-1,2,3,4-tetrahydroquinoxaline-6-carbaldehyde	India	
5.	G. S. Shankarling, Krishna J. Jarag, Dipak V. Pinjari, Aniruddha B. Pandit	Ultrasound assisted process for synthesis of chalcone	India	
6.	Prakash M. Bhate, Rajkumari Vijilata Devi, Shruti Masand, Lisan Shaikh, Samiksha Vaidya, Rajaram Dugane	Novel reactive dye system based on diazonium salts	India	TEQIP (in part)
7	Prakash Bhate, Sunil Rokade and Kamlesh Vadagaonkar	Preparation of achiral and chiral azo dyes from cyclic enol ehters	India	CSIR
8	Surjit Some,Dattatray Pethsangave	Graphene supported green approach for highly efficicient fire retardant	India	TEQIP (in part)

9	Surajit Some, Dattatray A.Pethsangave and P.K. Ghosh	Magnetic Graphene-Carrageenan-Iron Oxide Composite for Absorption of oils with recycle and reuse	India	TEQIP (in part)
10	Surajit Some , Rahul V. Khose and Alok Ray	Flame retardant transparent liquid based on novel functionalized GQDs.	India	TEQIP (in part)
11.	Surajit Some and Hyoyoung Lee	Optical Fiber Containing Graphene Oxide and Reduced Graphene Oxide, and Method for Manufacturing Gas Sensor Containing The Same.	Unites States	Research & Business Foundation Sungkyunkwan University (KR)
12	Surajit Some, Youngmin Kim and Hyoyoung Lee	Catalyst for Organic Reaction and Method of Use Thereof	Unites States	Research & Business Foundation Sungkyunkwan University (KR)

23. Areas of Consultancy and Income generated

Consultancy details of the faculty are given below:

Sr. No.	Faculty Name	Industry Name	Area
1	**Prof. G. S. Shankarling**	Metropolitan Eximchem Ltd	Process development in Speciality chemicals, Intermediates, Agrochemicals
		Asahi India Glass Ltd	Expert Advice
		Essilor International	Expert Advice
		Reliance India Ltd.	Product Innovation
		Hindustan Unilever Ltd, Mumbai.	Product Innovation /Expert Advice
		Jyothi Laboratories, Mumbai	Product Innovation /Expert Advice
		Diversey India Pvt Ltd., Mumbai	Expert Advice
		Enviro controls Associates, Surat.	Product Innovation /Expert Advice
		Sunbeam Monochem Pvt.Ltd	Product Innovation /Expert Advice
		Mallok Speciality chemicals	Expert Advice

	Megafine Speciality chemicals	Expert Advice
	Melog Speciality chemicals	Expert Advice
	Cavin Care Pvt Ltd	Expert Advice
	Midas Import Corporation	Expert Advice
	Prem Mehandi centre	Expert Advice
	Cyclopharma Chem Pvt Ltd	Expert Advice
Prof. N. Sekar	Megatic Intermediates Pvt. Ltd.	Process Development in Dyestuff Intermediates
	Heubach Colours Ltd	Expert Advice
	Spetrum Dyes Pvt. Ltd	Developments in pigments

24. Faculty Selected Nationally / Internationally to visit other laboratories / Institutions / Industries in India and abroad

Prof. N. Sekar was selected and visited to University of Mauritius under UGC-TEC Consortium 2011-2012 for the period of 1 months during 4th Jan 2012 to 31st Jan 2012.

25. Faculty serving in
a) National Committees b) International Committees c) Editorial Boards d) any other (please specify)

1. Prof.G. S. Shankarling — Sir. M. Visvesvaraya Institute of — Member, Board of Governors

IIChE — Life member

UDCT-Alumina Association — Life member

International Symposium on Ionic Liquids (ISOIL 2016) in collaboration with Reliance industries Ltd

Technology Innovation in Dyes and Pigments (TIDP 2015)

International conference- "*Convention on Colorants (COC)*" biannually with DMAI (Dyestuff Manufacturers Association of India)

Perfumery and Flavors Course

Dyes Department

TEQUIP — Department Coordinator

RRC Perfumery & Flavor Technology — Chairperson

RRC Dyes — Chairperson

2. Prof.N. Sekar	Indian Chemical Society	Fellow
	Society for the Advancement of Electrochemical Science and Technology	
	Indian Membrane Society, Fellow of Indian Mathematical Society	
		Fellow
	Editorial Advisor to Colourage	Colour publications
	SDC, UK	Corporate Member
3.Prof. P.M.Bhate	SDC, UK	Corporate Member
	Dyes and intermediates, sectional committee	Chairman

26. Faculty recharging strategies (UGC, refresher / orientation programs, workshops, training programs and similar programs).

Various workshops were organized under TEQIP for faculty improvement. These details are given in the annual report (2013-14,2014-15)

27. **Student projects**

a. percentage of students who have done in-house projects including inter-departmental projects

Overall percentage for research students of dyes department – 85%

b. percentage of students doing projects in collaboration with other universities

1. Industry / Institute

Overall percentage for research students of dyes department – 15%

28. **Awards / recognitions received at the national and international level by**

a. Faculty

prof. n. sekar was selected and visited to university of mauritius under UGC-TEC Consortium 2011-2012 for the period of 1 months during 4th Jan 2012 to 31st Jan 2012.

b. Doctoral / post doctoral fellows AwarDs

•Dr. Vikas Padalkar selected and actively participated in 3rd Science Conclave Nobel Laureate Meet which was organized by IIIT-Allahabad, India. 8-14 Dec. 2010.

•Mr.Vinod Gupta selected and actively participated in 3rd Science Conclave Nobel Laureate Meet which was organized by IIIT-Allahabad, India. 8-14 Dec. 2010.

•“Shri G. M. Abhayankar research presentation award” was awarded to mr. Vikas padalkar and mr. Vinod gupta for the year 2009-10 by ICT, Mumbai.

•Shri G. M. Abhayankar research presentation award” was awarded to mr. Kiran R. phatangare for the year 2010-11 by ICT, Mumbai.

•Young Researcher Award was awarded to Dr. Vikas Padalkar 5thYoung Researchers Conference Organized by Institute of Chemical Technology, Mumbai, 13-14th Jan. 2011.

•Best paper presentation award, was awared to Dr. Vikas Padalkar National Conference on Health and Disease, Organised by Indian Chemical Society, Mumbai Branch at Mithibai College Mumbai.17-18 Jan. 2011

•Best poster presentation award, was awarded to Dr. Vikas Padalkar National Conferences on Green Chemistry organized by DAV College Amritsar, Punjab, India, Sept 2011.

• Mr. Kiran Phatangare actively participated in 3rd Science Conclave Nobel Laureate Meet which was organized by IIIT-Allahabad, India. 8-14 Dec. 2010.

• Best paper presentation award, was awarded to Dr. Vikas padalkar National Conference on recent trends in Nanotechnolgy, organized by Birala College, Kalyan, Mumbai, March 1-2, 2012.

• Best Thesis Award, was awarded to Dr. Vikas Padalkar (2010-2011) by Institute of Chemical Technology. 3 March 2012.

• Mr. Vinod D. Gupta selected and visited to University of Mauritius under UGC-TEC Consortium 2011-2012 for the period of 3 months during 28th November 2011 to 23rd February 2012.

• Prof. N. Sekar selected and visited to University of Mauritius under UGC-TEC Consortium 2011-2012 for the period of 1 months during 4th Jan 2012 to 31st Jan 2012. Dyestuff Technology I NAAC-Self Study Report I 399 functional applications of colorants, Oct 2012, Organised by ICT, Mumbai.

• Mr. Vinod Gupta awarded Best poster presentation award in National symposium on functional applications of colorants, Oct 2012, Organised by ICT, Mumbai.

• Mr. Amol Choudhary awarded Best poster presentation award in National symposium on functional applications of colorants, Oct 2012, Organised by ICT, Mumbai.

• “shri g. m. Abhayankar research presentation award” was awarded to Dr. Vikas Padalkar and Mr. Abhinav Tathe for the year 2012-13 by ICT, Mumbai.

• Mr. Ankush More awarded Best poster presentation award in National symposium on functional applications of colorants, Oct 2013, Organised by ICT, Mumbai.

• Pranila Thale and Pravin Borase won first prize in poster competition in 6th International Conventional of Colorants conference-2015 held at 'The club', Andheri on 3rd -4th March.

• Vilas Patil and Eknath gayakwad won third prize in poster competition in 6th International Convention on Colorants conference 2015 held at 'The Club', Andheri on 3rd-4th March

• Mrs. Sunanda B. Phadtare, was awarded with Dr. S. R. Purao Endowment Best Research Publication Prize for the publication in Dyes and Pigment, 2013, Vol 97, 105-112.

• Mrs. Anita Sanap and Yogesh Sonawane won first prize in poster competition in 5th International Conventional of Colorants conference-2013 held at Gandhinagar, Gujrat on 8th -9th January

• Mekonnen won second prize for poster presentation in Convention on Colorants 2017

• Pravin Borase received third prize for the oral presentation in NSFAC-2016

• Rohit Bhide received third prize for the oral presentation in NSFAC-2016

• Eknath Gayakwad awarded with Shri G.M. Abhyankar Students' Travel Assistance Award in 2016-2017

• Vilas Patil has received Dr. S.R. Purao Endowment Award for Best Paper on 5th April 2016 for J. Org. Chem., 2015, 80, 7876- 7883

• Mr. Balu Gadilohar received third prize for the oral presentation in CATSCOL-2016, Mumbai

29. Seminars/ Conferences/Workshops organized and the source of funding (national/ international) with details of outstanding participants, if any.

Date	Industry Expert Invited For Guest Lecture	Departmental Coordinator	Objective	Beneficiaries
29 November 2012	Dr. Kamaljit Singh	Prof. N. Sekar	Amazing conjugated molecules : A voyage from color to conduction	All Students
5 Feb 2013	Prof. J.S.Miller	Prof. N. Sekar	Organic based magnets	All Students
15 Feb 2013	Ms. Shanta Venkatesh	Prof. N. Sekar	How to do literature survey	All Students
29 August 2013	Mr.C.Dabke	Prof.N.Sekar	Industry expertise and revolution in dyestuff technology	All students

2 May 2013	Mr.Vilas Sahasrabuddhe	Prof. G. S.Shankarling	Opportunities in marketing	All students
4 Jan 2014	Mr.R.Sabnis	Prof. P.M.Bhate	Industry development and career opportunities for research students	All students
8 April 2015	Mr.Ambady Rajgopalan	Prof.N.Sekar	Design of Experiments	All students
19 June 2015	Mr.Kamaljit Singh	Prof.N.Sekar	Collborative Chemistry	All students
19 June 2015	Mr.Kamaljit Singh	Prof.N.Sekar	Combating drug resistance	All students

30. Code of ethics for research followed by the departments

The research work, research publications, patents, thesis and any other publication arising out of the research work done by a student in the University shall be subject to the Plagiarism rules of the Institute, Clause 10 of “Code of Ethics and Code of Conduct” for the Faculty Members, and any other rules and regulations of the University pertaining to these.

Clause 10 states that :

All our knowledge has been built up communally. It follows that we must be able to rely on other people; we must be able to trust their word; without which the individual would be helpless to tell the true from false. A critical knowledge of the source of everything we examine is central to our craft. Hence, every researcher has to be very careful about the origin and reliability of his/ her work and must give full and fair recognition to the earlier contributors while publishing any finding. Plagiarism is an academic theft as it diminishes the original idea by fraudulent act. Plagiarism is not only an offense against the intellectual property rights of the original author but also undermines the authority and credibility of the academic enterprise in totality.

1. Definition: Taking over the ideas, findings, methods, interpretation, or text (written words) of another author, and presenting them thereafter as one’s own creation without proper acknowledgment to its actual source and with the intention that they be taken as the work of the deceiver, is plagiarism.

2. The teachers and students must scrupulously acknowledge in their own work every intellectual debt for ideas, methods, and expressions in appropriate form. They have an obligation to oppose deception actively in themselves and in others and to question the claims the work makes and the sort of credit it grants to others.

3. The teachers should emphasize the necessity of and ensuring rigorous intellectual honesty in the use of sources and of utter respect for the work of others.

4. The teacher must exercise the greatest care not to use a student's ideas, research, or presentation to his/ her benefit without appropriate acknowledgment.

5. Any case of suspected plagiarism should be brought at once to the attention of the affected parties and to the profession through proper and effective channels. Such a case should be brought to the notice of the Dean (RCRM) for further action.

6. The gravity of a charge of plagiarism, by whomever it is made, must not diminish the diligence exercised in determining whether the accusation is valid.

7. In all cases of plagiarism the most scrupulous procedural fairness must be observed, and penalties must be appropriate to the degree of offense.

8. A teacher will be solely responsible for any plagiarized work authored outward alone or with anybody else, including his/ her own students/ colleagues or collaborators from outside.

31. Student profile programme-wise (For the academic year 2015-16)

32. Diversity of students

Name of the Programme (refer to question no. 4)	% of students from the same university	% of students from other universities within the State	% of students from universities outside the State	% of students from other countries
B.Tech (Dyes)				
M.Tech (Dyes)	25%	0%	25%	50%
Ph.D				

33. set, gate and other competitive examinations? give details category-wise. – Nil

34. student progression

Student Progression	Percentage against Enrolled
UG to PG	70%
PG to M.Phil.	N.A
PG to Ph.D.	30%
Ph.D. to Post-Doctoral	10%
Employed	
• Campus selection	100% Campus selection
• Other than campus recruitment	
Entrepreneurs	10%

35. Diversity of staff

Percentage of Faculty	
Who are graduates from the same university	60%
Who are graduates from other universities in the same state	0%
Who are graduates from another state's university	40%
Who are graduates from a foreign university-	0%

36. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.litt. during the assessment period

None (For permanent faculty Ph.D is mandatory)

37. **Present details of departmental infrastructural facilities with regard to**

a) Library

The Institute provides all learning resources at central Library and no separate Library is required at the Department level.

b) Internet facilities for staff and students

Internet facility is freely available to student and staff through the IPC (Information processing center). The entire campus of the institute is Wi-Fi enabled and can be accessed by students and staff through a simple registration process

c) Total number of class rooms

Dyes
classrooms

Year Classroom Area, m^2
Capacity

All	Lecture Hall 1	21.6
30		
All	Lecture Hall 2	21.6
30		

Rem**arks:**

1. All the other classrooms of the institute are shared with other programmes and equipped with Multimedia projectors.

2. Sufficient Number of Audio systems and Laptops are available in the Department

3.Department has a conference room (capacity = 40) for seminars, lectures and tutorial sessions.

4. All the classrooms have comfortable benches, air circulation, lighting

d)

students'laboratories

e) Research

laboratories

Additional details regarding laboratories and classrooms equipped with ICT facilities are

given in the table below

Dyestuff Technology

1. Analytical Lab'L' Shape 72.54
2. Entire lab First Floor 211.77
3. Gr. Floor + Instrumentation lab 117.18
4. Pilot plant house (PPH) Under Renovation

Oils, Surfactants and Oleochemicals Technology

5. Godrej Pilot Plant 89.14
6. Process Lab 114.97
7. Tribo-application lab 34.83
8. Research lab 218.83
9. Godrej Lab 135.96
10. DNB Research Lab 183.00

Pharmaceutical Chemistry and Technology

11. Physio-Pharmacology 608
12. Technology of Liquid & topical Laboratory 833
13. Biochemistry & Microbiology Lab 699
14. Medicinal Natural Product & Pharmaceutical analysis 608
15. Pharmaceutical Formulation Technology – II (Old) 833
16. Pharmaceutical Product Development & Pharmaceutical Analysis (Old) (NUES)833
17. Pharm. (Chem.) Technology (NUES) (Old) 833

Food Engineering and Fermentation

18. A-289 Processing Lab 1047.77
19. A-241 Analytical Lab 88.75
20. Biochem & Micro practical Lab/Lalwani Centre 71.05

*Other departmental labs are accessible to research students

38. List of doctoral, post-doctoral students and research associates a) from the host institution/university

Post-doctoral students:

1 Dr. Rajpratap Kshatriya University of Khwajalu Natal,South Africa
Diastereoselective alpha arylation of ketones using asymmetric catalyst
Principal Investigator: Dr.Satyajit Saha

2 Dr.Deepti Lakhe I IIT,Mumbai
Design and synthesis of novel cyanine dyes for high-tech applications
Principal Investigator: Prof. N. Sekar

Doctoral students:

Sr. No.	Research Scholar	Previous Institution	Project	Supervisor
1.	More Priyanka	Institute of Chemical technology, Mumbai.	Utilisation of biocatalyst in organic synthesis	Dr. G.S. Shankarling
2.	Joglekar Amruta	Institute of Chemical Technology, Mumbai	Development and charatcterisation of speciality colorants using conventional and environmentally benign methods.	Dr. G.S. Shankarling
3.	Mande Prashant	Institute of Chemical Technology	Physio-chemical aspects of colourants in perfumery and flavor formulation	Prof. N. Sekar
4.	Prarena Lokhande	Department of Chemistry, ICT, Mumbai	To Be Decided	Prof. N. Sekar
5.	Suvidha Shinde	Department of Textiles and fibre processing and technology department, ICT,	Application of fluorescent dyes on textile and leather substrate	Prof. N. Sekar & Prof. R.V. Adivarekar(Co-guide)

		Mumbai		
6.	Nitesh N Ayare	ICT Mumbai.	Synthesis of fluorescent dyes with high performance.	Prof. N. Sekar
7.	Ramugade Supriya H.	ICT, Mumbai.		Prof. N. Sekar & Prof. R.V. Adivarekar(Co-guide)

b) from other institutions/universities

Doctoral students

Sr. No.	Research Scholar	Previous Institution	Project	Supervisor
1.	Moolya Preetam	RPG Life Sciences	Synthesis of High performance colorants	Prof. G. S. Shankarling
2.	Vajekar Shailesh	Ruparel College, Mumbai	Study and synthesis of novel colorant for High-tech application	Prof. G. S. Shankarling
3.	Boraste Deepak	Acoris Research Ltd. Pune	Studies in synthesis and applications of supramolecular host cavitands :Cucurbit[n]urils	Prof. G.S. Shankarling
4.	Ghorpade Prashant	VMV College, Amravati	Synthesis of novel deep eutectics and study of deep eutectics mixtures for catalytic action in organic synthesis	Prof. G.S. Shankarling
5.	Deshpande Saurabh	USV Ltd.	Design and synthesis of novel heterocycles for high tech applications.	Prof. G.S. Shankarling
6.	Borase Pravin	Aditya Birla science and Tech comp Ltd. Mumbai	Synthesis of novel heterocyclic colorants and supramolecular host for high tech applications.	Prof. G.S. Shankarling
7.	Gayakwad Eknath	Vidyabharti College Amaravati	Green methodologies for synthesis of novel heterocyclic colorants.	Prof. G. S. Shankarling
8.	Kamble Sujit	Evotec India Ltd., India	Green approach in synthesis of heterocyclic compounds and synthesis of novel colorants.	Prof. G.S. Shankarling

9.	Pant Preeti	V,G. Vaze College, Mumbai.	Synthesis of colourants for functional applications and implementation of green principles in organic reactions.	Prof. G.S. Shankarling
10	Yogesh Patil	Institute of Technology, Nirma University, Ahmedabad.	Dye degradation using Metal organic framework.	Prof. G.S. Shankarling
11.	Rathi Jyoti	Vidyabharti College Amaravati	Implementation of Chiral Deep Eutectic solvent for selective organic synthesis.	Prof.G.S. Shankarling
12.	Khopkar Sushil	University department Chemistry, Mumbai.	Synthesis, photophysical properties and application of novel squaraines	Prof. G.S. Shankarling
13.	Jachak Mahesh	Centaur Pharmaceuticals Pvt. Ltd	Synthesis of novel colorants for metal Sensor applications and ink jet Ink formulations	Prof. G.S. Shankarling
14.	Patel Khushbu	University department Chemistry, Mumbai.	Synthesis of graphene oxide and its Functinalized derivatives as a Promising organocatalyst for organic transformations	Prof. G.S. Shankarling
15	Mehta Viral	Texanlab laboratories,Pvt.Ltd	Yet to be decided	Prof.G.S. Shankarling
16.	Margar Sachin	Abasaheb Garware College, Pune.	Synthesis o Novel Coumarin Derivatives and Colorants Based on Fulvenes	Prof. N. Sekar

17.	Jadhav Manoj	KET's V. G. Vaze College. Mulund, Mumbai.	Synthesis of Novel Colorants for Dyes Sensitized Solar Cells	Prof. N. Sekar
18.	More Ankush	S.S.G.M. College, Kopargon	Design and synthesis of efficient fluorescent dyes with enhanced photophysical properties	Prof. N. Sekar
19.	Kataria Santosh	Ahmednagar College0	Synthesis of fused heterocycles with high hyperpolarisability	Prof. N. Sekar
20.	Jadhav Siddheshwar	Shivaji University	Synthesis of fused heterocyclic fluorophores with non linear optical properties	Prof. N. Sekar

21.	Mallah Ramnath	Birala College Kalyan	Synthesis of Highly Fluorescent Fused Heterocyclic Compounds	Prof. N. Sekar
22.	Gawale Yogesh	B.N.N College, Bhiwindi, Thane	Synthesis and photophysical properties of functional molecules	Prof. N. Sekar
23.	Earande Yogesh	S.S.G.M. College, Kopargon	Greener Methods for Synthesis of Heterocyclic Compounds	Prof. N. Sekar
24.	Archana Bhagwat	New Arts, Science and Commerce College Ahmednagar	Synthesis and Photophysical Properties of Polycyclic Fluorescent Compounds	Prof. N. Sekar
25.	Amol Jadhav	Department of Chemistry Shivaji University	Synthesis of High Performance Fluorescent Fused Heterocyclic Systems	Prof. N. Sekar
26.	Kiran Ahavad	Ahmednagar College, Ahmednagar	Synthesis and application of heterocyclic ESIPT molecules	Prof. N. Sekar
27.	Dhanraj Mobiya	Department of Chemistry, Mumbai University	Synthesis of novel fluorescent dyes and their applications	Prof. N. Sekar
28.	Manali Rajashirake	M .S. University, Badoda	Synthesis of high performance colourants for functional application	Prof. N. Sekar
29.	Mayuri Kadam	Department of Chemistry, Mumbai University	Synthesis of novel fused heterocyclic fluorescent compounds and its applications	Prof. N. Sekar
30.	Dinesh Patil	North Maharashtra University, Jalgaon.	Synthesis of novel dyes for DSSC applications	Prof. N. Sekar
31.	Sulochana Bhalekar	Ahmednagar college, Ahmednagar	Synthesis of fluorescent colourants	Prof. N. Sekar
32.	Manish Raikwar	The D.G. Ruparel College	Synthesis of highly fluorescent heterocyclic compounds	Prof. N. Sekar
33.	Mishra Virendra	University Of Mumbai. Kalina.	Synthesis of Fluorescent reactive dyes & their intermediates	Prof. N. Sekar
34.	Yadav Sagar B.S.	University of Mumbai, Kalina.	Synthesis of Heterocyclic Dyes with High performance Fluorescence.	Prof.N.Sekar
35	Chaitannya Waman Ghanavatkar	Gogate Jogalekar College Ratnagiri (aff.to Mumbai Uni)	Synthesis of photostable and fluroscent reactive dyes and their intermidiates	Prof.N.Sekar

36	Suryapratap Jatashankar Sharma	Institute of Science , Mumbai	Yet not Decided	Prof. N. Sekar
37	Zahir Ali Siddiqui	University of Delhi, Delhi	Yet Not decided	Prof. N. Sekar
38	Zeba Naushad Khan	Jai Hind College , Mumbai	Yet Not Decided	Prof. N. Sekar
39.	Vadagaonkar Kamlesh Shashikant	H.P.T. Arts and R.Y.K. Science college, Nashik	Studies in Colorants	Prof. P. M. Bhate
40.	Nazim Ahmad Abdul Aleem	Shri Shivaji College of Arts, Commerce & Science College, Akola	Synthesis of Natural Products	Prof. P. M. Bhate

41.	Garande Ashok Malappa	Ahmednagar College, Ahmednagar	Total Synthesis of Natural Products	Prof. P. M. Bhate
42.	Dugane Rajaram Gangaram	Department of Chemistry, Dr.Babasaheb Ambedkar Marathawada Univrsity, Aurngabad	Studies in Chiral synthesis	Prof. P. M. Bhate
43.	Rajkumari Vijilata Devi	Ahmednagar College, Ahmednagar.	Total Synthesis of Natural Products	Prof. P. M. Bhate
44.	Dattatray Appasha Pethsangave	Dr.Babasaheb Ambedkar Marathawada Univrsity, Aurngabad,	Synthesis of grapheme Derivative & their applications	Dr. Surajit Some

45	Rahul Khose	Wilson College, University of Mumbai.	Synthesis of carbon nanoparticles and their applications.	Dr. Surajit Some
46	Pravin Vadekar	Institute of Science, Mumbai. .	Synthesis and /characterization of Graphene Based Nano-composites and their application s in various Energy Storage Devices	Dr. Surajit Some
47	Valmik Jejurkar	P.V.P. College Loni, Pravaranagar	Design, Synthesis and applications of Troger's Base towards functional molecules and Organocatalysis	Dr.Satyajit Saha.

39. Number of post graduate students getting financial assistance from the university.
Approx. 100%

40. Was any need assessment exercise undertaken before the development of new programme(s)?
If so, highlight the methodology.
No new program has been started recently

41. Does the department obtain feedback from

a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? Yes

b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? Yes

c. alumni and employers on the programmes offered and how does the department utilize the feedback? Yes
(A) feedback collected for all courses: YES

(B) specify the feedback collection process: Electronic. On our intranet, each student has a separate account and fills up feedback for each course at the semester end.

(C) percentage of students participating: 100%

(D) specify the feedback analysis process:

(1) Feedback form has been prepared after a lot of brain storming which contain 32 questions.

(2) Feedback is taken electronically and the activity is co-ordinated by Institutional and Departmental co-ordinator.

(3) The collected feedback and compiled and specific comments are identified. These comments are communicated to concerned faculty members by Head of the Department

(E) Basis of reward / corrective measures, if any: Courses with very good feedback and bad feedback - the HOD will speak to the faculty member and find possibilities of improvement. Another indirect feedback is by students is voting for a Best Teacher Award.

(F) number of corrective actions taken in the last three years:

1.Corrective steps include special sessions for students not doing well. Many faculty members attended special programs for pedagogy and teaching skills.

2.Based on students' feedback, one or revision sessions of pre-requisite subject material are conducted before starting the course.
3.Improvements are made in continuous assessment practices based on students' input. The department follows and OBE (Outcome based education scheme and has certain specific PEO's i.e program educational outcomes and PO's i.e program outcomes.

42. List the distinguished alumni of the department (maximum 10)
List given in the table below

Name	Organisation	Designation
Surendra Pandey	Symchem Research Labs Pvt Limited	Founder
Dr.R. Rajagopal	KnowGenix	Founder
Digambar Ramkrishna Tatke	Synthone Laboratories And Consultants Private Limited	Founder
Dr.Murzban Karai	Jenrashid Consultants	Founder
Pankaj Bet	Bet & Bet Industries	Founder
Pramod Sawant	Dreamland Dyes Private Limited	Founder
Rajen Shah	Techno Color Corporation	Founder
Ravindra Bandivadekar	B.J. Corporation, Kolhapur	Founder
Savindar Singh Sarna	Sarna Chemicals Pvt. Ltd.	Founder

Siddhath Sikchi	Clean Science & Technology P Ltd	Founder
Narendra Parekh	Pidilite Industries Ltd	Chairman
K.L. Rathi	Sudarshan Chemicals	Chairman
Dr. Kishore Shah	Sauradip Chemicals	Founder
Dr. Shavak Bhumgara	Eskay Dyestuffs &Organic Chemicals Pvt Ltd	Managing Director
B.L. Kaul	Clariant	Global Head
Dr. R.B. Mitra	Central Leather Research Institute	Director
Dr. Ram Sabnis	Pfizer Ltd	Senior Patent Agent, USA

43. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts

In addition to the guest lectures mentioned elsewhere in this document, the following national conferences and international conventions were organised by the department

Sr. No.	Conferences /Seminars / Workshop Organised	Faculty Name	Date	Location
1	Convention On Colorants	Prof. P. M. Bhate, Prof. N.Sekar, Prof. G. S. Shankarling	Janurary 2013	Gandhinagar, Gujrat
2	Convention On Colorants	Prof. P. M. Bhate, Prof. N. Sekar, Prof. G. S. Shankarling, Dr. S.Some, Dr.S.Saha	March 2015	The Club Mumbai
3	National Symposium of functional application of colorants	Prof. P. M. Bhate, Prof. N.Sekar, Prof. G. S. Shankarling	May 2013	ICT, Mumbai
4	National Symposium of functional application of colorants	Prof. P. M. Bhate, Prof. N. Sekar, Prof. G. S. Shankarling, Dr. S. Some Dr. S.Saha	May 2014	ICT, Mumbai
5	Workshop on safe practices in the laboratory	Prof. P. M. Bhate, Prof. N.Sekar Prof. G. S. Shankarling	March 2014	ICT, Mumbai
6	Technology Innovation in Dyes and pigments (TIDP)	Prof.G.S. Shankarling	Dec.2015	ICT,Mumbai

7	International Symposium on Ionic Liquids (ISOIL)	Prof.G.S. Shankarling	Jan 2016	ICT, Mumbai
8	Pigment finishing and printing technology and effluent treatment	Dr.Surajit Some Dr.Satyajit Saha Prof.G.S.Shnakrling	Sept 2016	ICT,Mumbai
9	National Symposium for functional Application of colorants	Prof.N.Sekar	Oct 2016	ICT,Mumbai

44. list the teaching methods adopted by the faculty for different programmes.

As shown above the faculty mainly explain the subject though:

1) Audio-Visual Teaching aids (Presentations)
2) Case studies
3) Practical Experiences
4) Industry Visits
5) Home papers and Projects
6) Seminars
7) Tutorials
8) Time barred assignments

45. how does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

The department has a feedback mechanism to overcome possible shortcomings. Also a credit based evaluation system is in place which stresses on continuous evaluation. Firstly the broad program objectives for all the courses of the department are :

Certain program outcomes are stressed upon i.e:

- An ability to apply knowledge in Dyestuff Technology and Engineering
- An ability to implement concept to commercialization(C C) concept of innovative ideas
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design and synthesize organic colour molecules and intermediates to meet desired needs within realistic constraints such as economic, environmental, health and safety, production competency, and sustainability
- A recognition of the need for an ability to engage in lifelong learning

• A commitment to quality, timeliness, and continuous improvement.

These program outcomes are measured in each of graduate by a feedback mechanism which includes input from our alumni and also the employers.

These PO's and PEO's are constantly modified to conform with current trends in both academia and industry. Furthermore out programs are mapped with respect to our PO's and PEO's

46. highlight the participation of students and faculty in extension activities - Nil

47. give details of "beyond syllabus scholarly activities" of the department.
Several international and national level symposia and conferences are held annually. Also industry experts and distinguished alumni are invited for guest lectures , seminars and panel discussions which further the knowledge of our students. College level fests are regularly held in which our students actively participate, especially in technical events. Details of seminars and guest lectures organized by the department is mentioned previously.

48. state whether the programme/ department is accredited/ graded by other agencies? If yes, give details.
All the programs are accredited by AICTE and B.Tech (Dyes) program was last accredited by NBA vide letter NBA/ACCR-967/2007 dt. 19/07/2008. M.Tech (Dyes) is accredited by NBA vide 28-301-2010-NBA dt 21/10/2015

49. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

The department has done pioneering research work in the following fields

1) Development and applications of Ionic Liquids

2) Development and applications of deep eutectic solvents

3) Synthesis of novel cucurbiturils

4) Synthesis and applications of various types of chemosensors

5) Synthesis and applications of sensors for explosives

6) Synthesis and applications of laser dyes

7) Synthesis of natural products by easier protocols

8) Advancement in the fields of heterogeneous catalysts

The list of research publications attached previously gives and exhaustive idea of the research and development activities of the department over the past few years

50. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

strengths:

- One of the oldest (a sort of heritage status) and reputed institution dedicated to chemical engineering processes and technologies with a remarkable rate of growth

- Teaching (both UG and PG) and research programmes exist in a large variety of frontier as well as unique areas

- Well qualified, senior and experienced faculty

- Academically, administratively and financially autonomous status of the institute

- Rs. 23 crore TEQIP programme is rated excellent

51. **future plans of the department**.

Future plans of the department are enshrined in the departmental vision 2020. It reads

- the department aspires to be one of the world's top color chemistry department 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 colourants and related areas-basic textile and leather coloration, functional colourants, organic process technology and specialty chemicals

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