Part A : Institutional Information

1 Name and Address of the Institution

Institute of Chemical Technology, Mumbai,
NATHALAL PAREKH TECHNOLOGY MATUNGA MUMBAI-400019

2 Name and Address of the Affiliating University, if applicable:

3 Year of establishment of the Institution

1933

4 Type of the Institution

☐ Institute of National Importance	☐ Affiliated
☐ University	☐ Autonomous
☑ Deemed University	☐ Any Other(Please Specify)

5 Ownership Status:

☐ Central Government	☐ Trust
☑ State Government	☐ Society
☑ Government Aided	☐ Section 25 Company
☐ Self financing	☐ Any Other(Please Specify)

6 Details of all the programs offered by the institution:

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
Master of Chemical Engineering	PG	1958	1958	18	Yes	30	Granted accreditation for 5 years for the period (specify period)	2016	2021	Yes	2

Sanctioned Intake for Last Five Years for the Master of Chemical Engineering	
Academic Year	**Sanctioned Intake**
2020-21	30
2019-20	30
2018-19	30
2017-18	30
2016-17	30
2015-16	30

Bachelor of Chemical Engineering	UG	1934	1934	30	Yes	75	Granted accreditation for 5 years for the period (specify period)	2016	2022	No	4

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
Sanctioned Intake for Last Five Years for the Bachelor of Chemical Engineering											
Academic Year					**Sanctioned Intake**						
2020-21					75						
2019-20					75						
2018-19					75						
2017-18					75						
2016-17					75						
2015-16					75						
B.Tech - Dyestuff Technology	UG	1944	1944	16	Yes	18	Granted accreditation for 5 years for the period (specify period)	2016	2022	No	4
B.Tech- Food Engineering and Technology	UG	1943	1943	16	No	16	Granted accreditation for 5 years for the period (specify period)	2016	2022	0	4
B.Tech- Fibres and Textile Processing Technology	UG	1934	1934	34	No	34	Granted accreditation for 5 years for the period (specify period)	2016	2022	0	4
B.Tech- Oils, Oleochemicals and Sufactant Technology	UG	1943	1943	16	No	16	Granted accreditation for 5 years for the period (specify period)	2016	2022	0	4
B.Tech- Pharmaceuticals Chemistry and Technology	UG	1943	1943	10	Yes	18	Granted accreditation for 3 years for the period (specify period)	2017	2020	0	4
B.Tech Polymer Engineering and Technology	UG	1946	1946	4	Yes	16	Granted accreditation for 5 years for the period (specify period)	2016	2022	0	4
B.Tech Surface Engineering & Technology	UG	1946	1946	4	Yes	16	Granted accreditation for 5 years for the period (specify period)	2016	2022	0	4
B. Pharmacy	UG	1959	1959	15	Yes	30	Granted accreditation for 5 years for the period (specify period)	2016	2021	0	4
M. Pharmacy	PG	1961	1961	6	Yes	18	Granted accreditation for 3 years for the period (specify period)	2014	2017	0	2
M.Tech - Dyestuff Technology	PG	1961	1961	4	Yes	18	Granted accreditation for 5 years for the period (specify period)	2015	2020	0	2
Sanctioned Intake for Last Five Years for the M.Tech - Dyestuff Technology											
Academic Year					**Sanctioned Intake**						
2020-21					18						
2019-20					18						
2018-19					4						
2017-18					4						
2016-17					4						
2015-16					4						
M.Tech - Food Engineering & Technology	PG	1946	1946	5	Yes	18	Granted accreditation for 5 years for the period (specify period)	2020	2026	0	2

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
Sanctioned Intake for Last Five Years for the M.Tech - Food Engineering & Technology											
Academic Year					**Sanctioned Intake**						
2020-21					18						
2019-20					18						
2018-19					10						
2017-18					10						
2016-17					10						
2015-16					10						
M.Tech - Fibres and Textile Processing Technology	PG	1961	1961	18	No	18	Granted accreditation for 5 years for the period (specify period)	2015	2020	0	2
M.Tech - Oils, Oleochemicals and Sufactant Technology	PG	1943	1943	6	Yes	18	Granted accreditation for 3 years for the period (specify period)	2020	2023	0	2
M.Tech - Pharmaceuticals Chemistry and Technology	PG	1966	1966	5	Yes	18	Granted accreditation for 5 years for the period (specify period)	2020	2026	0	2
Sanctioned Intake for Last Five Years for the M.Tech - Pharmaceuticals Chemistry and Technology											
Academic Year					**Sanctioned Intake**						
2020-21					18						
2019-20					18						
2018-19					18						
2017-18					5						
2016-17					5						
2015-16					5						
M.Tech - Polymer Engineering and Technology	PG	1966	1966	8	Yes	18	Granted accreditation for 5 years for the period (specify period)	2015	2020	0	2
M.Tech - Surface Engineering & Technology	PG	1966	1966	8	Yes	18	Granted accreditation for 5 years for the period (specify period)	2015	2020	0	2
M.Tech - Food Biotechnology	PG	2008	2008	10	No	10	Granted accreditation for 5 years for the period (specify period)	2016	2021	0	2
M.Tech- Bioprocess Technology	PG	1993	1993	30	No	30	Granted accreditation for 3 years for the period (specify period)	2020	2023	0	2
M.Tech- Perfumery and Flavor Technology	PG	1990	1990	5	Yes	18	Granted accreditation for 5 years for the period (specify period)	2015	2020	0	2
Sanctioned Intake for Last Five Years for the M.Tech- Perfumery and Flavor Technology											
Academic Year					**Sanctioned Intake**						
2020-21					18						
2019-20					18						
2018-19					18						
2017-18					18						
2016-17					5						
2015-16					5						
M.Tech. Green Technology	PG	2010	2010	30	No	30	Granted accreditation for 5 years for the period (specify period)	2016	2021	0	2
M. Tech. Pharmaceutical Biotechnology	PG	2016	2016	10	Yes	18	Eligible but not applied	--	--	0	2

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
M.E. (Plastic Engineering)	PG	1972	1972	5	Yes	18	Granted accreditation for 3 years for the period (specify period)	2020	2023	0	2

Sanctioned Intake for Last Five Years for the M.E. (Plastic Engineering)	
Academic Year	**Sanctioned Intake**
2020-21	18
2019-20	18
2018-19	5
2017-18	5
2016-17	5
2015-16	5

7 Programs to be considered for Accreditation vide this application

S No	Level	Discipline	Program	Current Year Sanctioned Intake	Current Year Admission (in Nos.)
1	Post Graduate	Engineering & Technology	Chemical Engg.	30	30
2	Post Graduate	Engineering & Technology	Green Technology	30	27
3	Post Graduate	Engineering & Technology	Food Biotechnology	10	10
4	Post Graduate	Engineering & Technology	DYESTUFF TECHNOLOGY	18	6

8 Vision of the Institution:

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

9 Mission of the Institution:

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

10 Contact Information of the Head of the Institution and NBA coordinator, if designated:

Head of the Institution	
Name	Prof. Aniruddha Pandit
Designation	Vice Chancellor
Mobile No.	9820408037
Email ID	vc@ictmumbai.edu.in

NBA Coordinator, If Designated

Name	C S Mathpati
Designation	Associate Dean, IQAC
Mobile No.	8850788446
Email ID	cs.mathpati@ictmumbai.edu.in

PART B: DEPARTMENTAL INFORMATION

1 State the Vision and Mission of the Department

VISION OF DEPARTMENT

We will strive to be a vibrant department, with continuously evolving curricula and program 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 OF DEPARTMENT

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 sever the chemical engineering profession and society and strive to reach the summit as a team and stake-holders and as role models to the younger generation.

2 Justification of consistency of the Department Vision and Mission with the Institute Vision and Mission

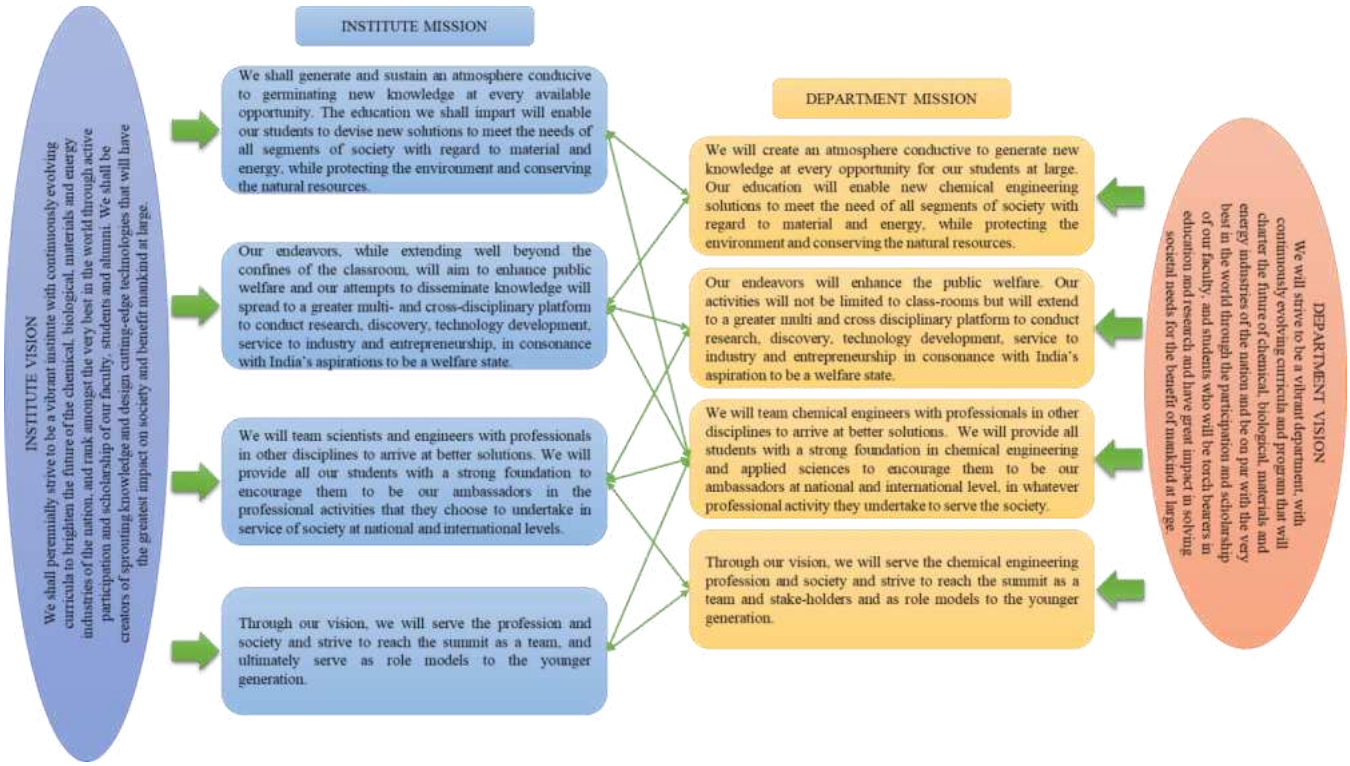
VISION OF INSTITUTE

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

MISSION OF INSTITUTE

We shall generate and sustain an atmosphere conducive to germinating new knowledge at every available opportunity. The education we shall impart will enable our students to devise new solutions to meet the needs of all segments of society with regard to material and energy, while protecting the environment and conserving the natural resources. Our endeavors, while extending well beyond the confines of the classroom, will aim to enhance public welfare and our attempts to disseminate knowledge will spread to a greater multi- and cross-disciplinary platform to conduct research, discovery, technology development, service to industry and entrepreneurship, in consonance with India's aspirations to be a welfare state. We will team

scientists and engineers with professionals in other disciplines to arrive at better solutions. We will provide all our students with a strong foundation to encourage them to be our ambassadors in the professional activities that they choose to undertake in service of society at national and international levels. Through our vision, we will serve the profession and society and strive to reach the summit as a team, and ultimately serve as role models to the younger generation.



3 Details of all UG & PG Programs offered by the department

Sr no	PG Program Name	Corresponding UG program/Department name	Current Year Sanctioned Intake	Current year Admission (in Nos.)
1	Master of Chemical Engineering	Bachelor of Chemical Engineering	30	30

4 State the Program Educational Objectives (PEOs) for the PG program(s) under consideration for accreditation

Program Education Objectives (PEOs) are listed below:

PEO 1) Our graduates are expected to think critically, creatively and apply the fundamentals of Chemical Engineering to chemical and allied industries for the benefit of country in general, economy, society and environment in particular.

PEO 2) Our graduates are expected to adopt to evolving technologies and stay in tune with current needs of the country and society.

PEO 3) Our graduates are expected to undertake fundamental and applied research for development and implementation of new technologies for the benefit of mankind in general, economy, society and environment in particular.

PEO 4) Our graduates are expected to be innovative and have good entrepreneurship and project management skills.

Part B: Criteria Summary

Criteria no.	Criteria	Total Marks	Institute Marks
1	PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES	125	125.00
2	PROGRAM OUTCOME	75	75.00
3	STUDENTS' PERFORMANCE	75	72.40
4	FACULTY CONTRIBUTIONS	75	75.00
5	LABORATORIES AND RESEARCH FACILITIES	75	75.00
6	CONTINUOUS IMPROVEMENT	75	75.00
	Total	**500**	**497**

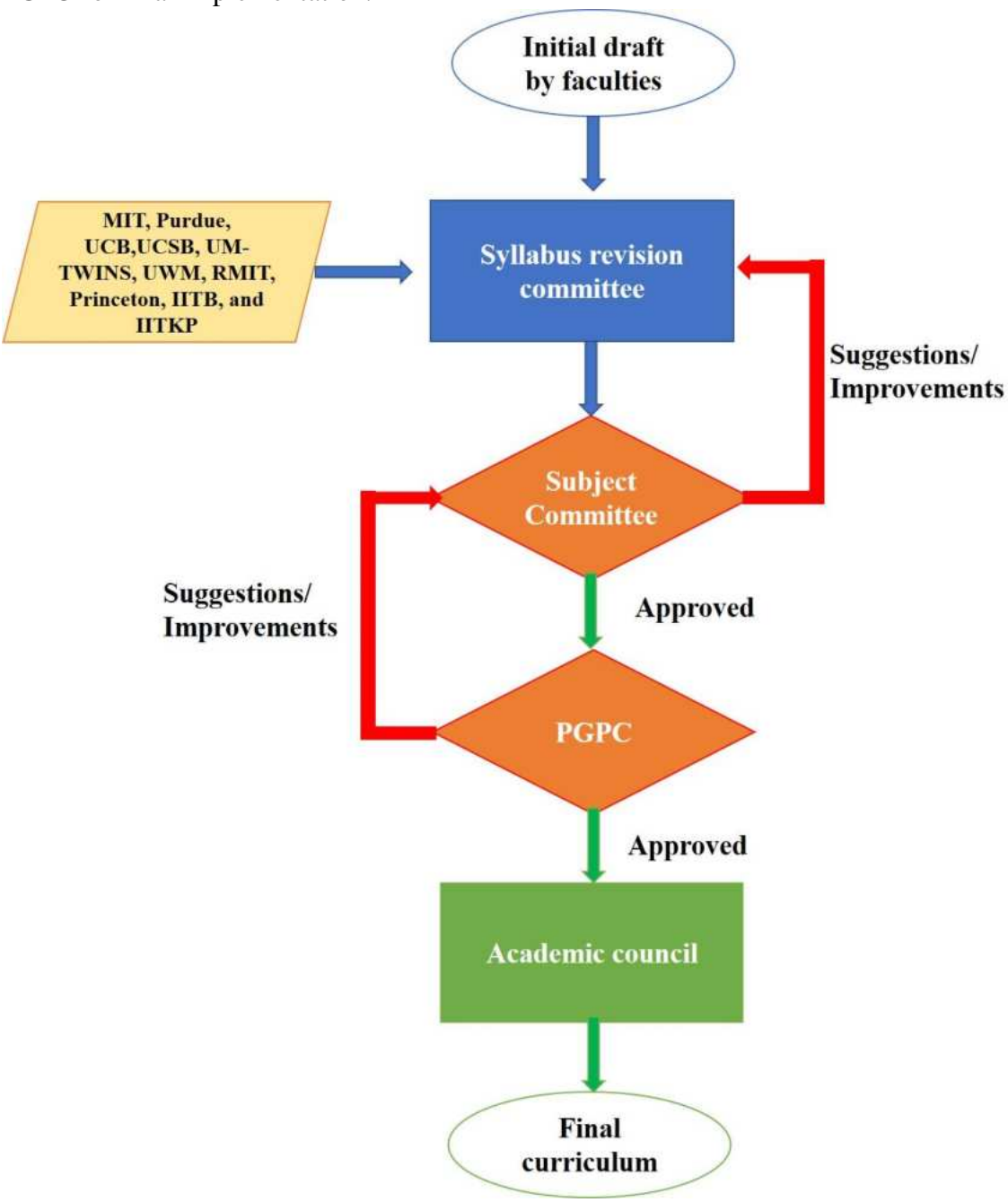
1 PROGRAM CURRICULUM AND TEACHING –LEARNING PROCESSES (125)

Institute Marks (125)

1.1 Program Curriculum (35) — Institute Marks (35)

1.1.1 State the process for designing the program curriculum (10) — Institute Marks (10)

Departmental Academic Committee looks at the curriculum of leading universities such as MIT, Purdue, UCB, UCSB, UM-TWINS, UWM, RMIT and Princeton (International) and IITB and IITKGP (Indian). The committee formulates the draft curriculum plan which is sent to (a) Alumni (b) external examiners (3) Visiting faculty (4) Subject experts from IIT, NCL, and other eminent institute (5) Industry experts (6) recently graduated students (7) Subject experts from foreign universities. Based on their suggestions, final draft is prepared and proposed to PGPC for final implementation.



1.1.2 Structure of the Curriculum (5) Institute Marks (5)

The structure of the curriculum is shown below:

No.	Subject	Credit	Hr/Week			Marks			
			L	T	P	Continuous Assessment	Mid-semester Examination	Final Examination	Total
SEMESTER I									
CET 2151	Core I: Advanced Transport Phenomena	3	2	1	0	10	15	25	50
CET 2152	Core II: Thermodynamics of Phase Equilibria	3	2	1	0	10	15	25	50
CET 2153	Core III: Advanced Reaction Engineering	3	2	1	0	10	15	25	50
HUP 2101	Elective I: Research Methodology	3	2	1	0	10	15	25	50
CET 2251	Elective II: Advanced Material Science	3	2	1	0	10	15	25	50
CEP 2351	Chemical Engineering Laboratory	3			6	25		25	50
CEP 2352	Seminar and Critical Review	3	---	-- -	6			30 (Report) 20 (Presentation)	50
CEP 2353	Research Project I	6	---	-- -	12			60 (Report) 40 (Presentation)	100
	TOTAL:	27	10	5	24				450
SEMESTER II									
CET 2154	Core IV: Advanced Separation Processes	3	2	1	0	10	15	25	50
CET 2155	Core V: Advanced Mass transfer	3	2	1	0	10	15	25	50
CET 2156	Core VI: Multiphase Reactor Engineering	3	2	1	0	10	15	25	50
CET 2287	Elective III: Life Cycle Analysis	3	2	1	0	10	15	25	50
CET 2252	Elective IV: Interfacial	3	2	1	0	10	15	25	50

	Science and Engineering								
CEP 2354	Process Simulation and Modelling Laboratory	3			6	25		25	50
CEP 2355	Research Project II	9	---	-- -	18			90 (Report) 60 (Presentation)	150
	TOTAL:	27	10	5	24				450
SEMESTERS III									
CEP2356 Industrial Training of duration 3-6 months duration with total assigned credit as 30 and marks as 450									
SEMESTER IV									
CEP2756 Research Project, Thesis with total assigned credit as 30 and marks as 450									

1.1.3 State the components of the curriculum (10) Institute Marks (10)

Course Components	**Curriculum Content (% of total number of credits of the program)**	**Total number of contact hours**	**Total number of credits**
Program Core	15.78%	270.00	18
Program Electives	5.26%	90.00	6
Open Electives	5.26%	90.00	6
Mini Project(s)	0%	0.00	0
Internships/Seminars	28.94%	690.00	33
Major Project(s)	39.47%	1050.00	45
Any other (Please specify)	5.26% (Practicals)	180.00	6
Total number of Credits			**114**

1.1.4 Overall quality and level of program curriculum (10) Institute Marks (10)

Institute Name (Total Credits)	**IITB (156)**	**IITKGP (88)**	**NIT-Trichy (65)**	**ICT Mumbai (114)**
Stream	**Chemical Engineering**	**Chemical Engineering**	**Chemical Engineering**	**Chemical Engineering**
Programme core	38(24%)	27(32%)	21(33%)	18(16%)
Programme Electives	18(12%)	15(18%)	18(28%)	12(10%)
Open Electives	6(4%)			
Practical		2(2%)	2(1%)	6(5%)
Seminar	4(2%)	4(2%)		3(2%)
Internship				30(27%)
Major Project	90(58%)	40(46%)	24(38%)	45(40%)

1.2 Teaching-Learning Processes (90) Institute Marks (90)

1.2.1 Quality of end semester examination, internal semester question papers, assignments and evaluation (20) Institute Marks (20)

The weightages of different modes of assessments are:

	In-Semester evaluation		End-Semester-Exam	Components of continuous mode
	Continuous mode	Mid Semester-Exam		
Theory	20%	30%	50%	Quizzes, class tests (open or closed book), home assignments, group assignments, *viva-voce* assignments, discussions
Practical	50%	-	50%	Attendance, *viva -voce*, journal, assignments, project, experiments, tests
Seminar/ Research work			100%	Continuous evaluation not applicable, End semester evaluation will be based on written report evaluation and presentation in front of the external examiner within the Department

Continuous Evaluation

-The continuous evaluation is conducted at least two times for each subject, usually for 10 marks for a 50-mark subject (3-credits).

-The types of continuous evaluation include Quizzes, class tests, home assignments, group assignments

-The continuous evaluation encompasses each of course outcomes for the subject.One of the examples of continuous evaluation covering the Course Outcomes are presented.

Mid Semester Examination

-The Mid semester is one theory examination conducted once for each subject, typically for 15 marks for a 50-mark subject (3-credits).

-The Mid semester question paper encompasses each of course outcomes for the subject.

End Semester Examination

-The End semester is one theory examination conducted once for each subject, typically for 25 marks for a 50-mark subject (3-credits).

-The End semester question paper encompasses each of course outcomes for the subject.

1.2.2 Quality of student projects (30) Institute Marks (30)

- All the student projects are based on sustainability, development of new research areas and process development in the areas of chemical engineering.
- A student project is evaluated throughout the semesters from I to IV.

- In semester I, the students perform a literature survey through Research I and Seminar and Critical Review on their respective research projects and any other topic given by other faculty members.
- In Semester II, students continue their project work through Research II, where along with the literature survey, they start planning and performing the preliminary experiments.
- In Semester III, students go for industrial internship for up to six months, where they learn the industrial practices and gain practical knowledge relevant to the classroom teaching.
- In Semester IV, the students concentrate entirely on their respective research projects, followed by thesis submission.
- A typical thesis consists of five chapters viz. Introduction, Literature Review, Materials & Methods, Results and Discussion, Summary and Conclusion.
- The Thesis is evaluated by External Examiner and the students defend their thesis in front of large gathering.
- The thesis is evaluated of 450 marks and the Rubrics for evaluation is given below.

Sr. No.	Assessment Criterion	Marks
1	Understanding of Research Area	**/60**
2	Problems Formulation / Experimental Design/ Mathematical Modelling	**/60**
3	Quality of Work Done	**/70**
4	Analysis and Ineterpretation of results	**/70**
5	Quality of Thesis Submitted	**/70**
6	Quality of presentation	**/60**
7	Answer to questions raised during Open Defence	**/60**
	Total marks (out of 450):-	**/450**
Outstanding: 100%-90%; Excellent: 89.99%-80%; Very Good: 79.99%-70%; Good: 69.99%-60%; Reasonable: 59.99%-50% (these are only guidelines)		

Recommendation:

The Master of Chemical Engineering Thesis submitted by the candidate is:

1. Acceptable, and may be regarded as final in the present form.
2. Acceptable with minor revisions. The revisions have been indicated to the student during open defence examination

Following is an example of a typical thesis evaluation form:

Institute Of Chemical Technology
(University under Section -3 of the UGC Act 1956)
Elite Status and Centre of Excellence – Govt. of Maharashtra
N.M.Parekh Marg, Matunga, Mumbai 400019 India.
Ph: +91-22-33611111/2222, Fax: +91-22-33611020, www.ictmumbai.edu.in
Master of Chemical Engineering

Final Stage Evaluation of Thesis : Evaluation by the Internal and External Examiner

Date of Open Defence Examination:	**Feb 18,2021**
Name of the student:	Avni Singh
Name of the Research Supervisor:	Dr. Channamallikarjun Sidramayya Mathpati
Degree:	Master of Chemical Engineering
Title of the Project:	Design of reactive dividing wall column for the synthesis of butyl levulinate using MATLAB
Department:	Chemical Engineering

Sr. No.	Assessment Criterion	Marks
1	Understanding of Research Area	56/60
2	Problems Formulation / Experimental Design/ Mathematical Modelling	55/60
3	Quality of Work Done	65/70
4	Analysis and Ineterpretation of results	67/70
5	Quality of Thesis Submitted	64/70
6	Quality of presentation	57/60
7	Answer to questions raised during Open Defence	56/60
	Total marks (out of 450):-	**420/450**
Outstanding: 100%-90%; Excellent: 89.99%-80%; Very Good: 79.99%-70%; Good: 69.99%-60%; Reasonable: 59.99%-50% (these are only guidelines)		

Recommendation :

The Master of Chemical Engineering Thesis submitted by the candidate is:

1. Acceptable, and may be regarded as final in the present form.
2. Acceptable with minor revisions. The revisions have been indicated to the student during open defence examination.

CEP2756: Thesis Submission and Viva Voce Examination

Course outcomes

1. Systematically perform experiments/modeling activity to accomplish the set objectives (K3)
2. Critically analyse the results and present them in coherent manner in the form of graphs, tables etc. (K4)
3. Write a technically correct report as per the suggested guidelines and present the work (K4)

List of Publications from M. Chem. Research (2016-2021)

Sr No	Student Roll N.	Authors	Title	Year	Source title	Volume	Issue	Art. No.	Page start	Page end
1	15CHE2005	**Patil L.**, Gogate P.R.	Large scale emulsification of turmeric oil in skimmed milk using different cavitational reactors: A comparative analysis	**2018**	Chemical Engineering and Processing: Process Intensification	126			90	99
2	15CHE2005	**Patil L.**, Gogate P.R.	Ultrasound assisted synthesis of stable oil in milk emulsion: Study of operating parameters and scale-up aspects	**2018**	Ultrasonics Sonochemistry	40			135	146
3	16CHE220	Kokare M.B., **Ranjani V.**, Mathpati C.S.	Response surface optimization, kinetic study, and process design of n-butyl levulinate synthesis	**2018**	Chemical Engineering Research and Design	137			577	588
4	15CHE2031	Chaudhari S.M., **Gawal P.M.**, Sane P.K., Sontakke S.M., Nemade P.R.	Solar light-assisted photocatalytic degradation of methylene blue with Mo/TiO_2: a comparison with Cr- and Ni-doped TiO_2	**2018**	Research on Chemical Intermediates	44	5		3115	3134
5	15CHE2016	Gomes F., **Thakkar H.,** Lähde A., Verhaagen B., Pandit A.B., Fernández Rivas D.	Is reproducibility inside the bag? Special issue fundamentals and applications of sonochemistry ESS-15	**2018**	Ultrasonics Sonochemistry	40			163	174

6	16CHE229	Hendre N.V., **Venkatasubramani V.,** Farakte R.A., Patwardhan A.W.	Hydrodynamics and Mass Transfer Characteristics of Asymmetric Rotary Agitated Columns	**2018**	Industrial and Engineering Chemistry Research	57	5		1630	1644
7	15CHE2029	Gupta A.R., **Jalan A.P.,** Rathod V.K.	Solar energy as a process intensification tool for the biodiesel production from hempseed oil	**2018**	Energy Conversion and Management	171			126	132
8	16CHE225	**Kashyap S.S.**, Gogate P.R., Joshi S.M.	Ultrasound assisted intensified production of biodiesel from sustainable source as karanja oil using interesterification based on heterogeneous catalyst (Γ-alumina)	**2019**	Chemical Engineering and Processing - Process Intensification	136			11	16
9	16CHE225	**Kashyap S.S.**, Gogate P.R., Joshi S.M.	Ultrasound assisted synthesis of biodiesel from karanja oil by interesterification: Intensification studies and optimization using RSM	**2019**	Ultrasonics Sonochemistry	50			36	45
10	16CHE218	Hanchate N., **Kulshreshtha P.**, Mathpati C.S.	Optimization, scale-up and cost estimation of dehydration of ethanol using temperature swing adsorption	**2019**	Journal of Environmental Chemical Engineering	7	2	102938		

11	15CE2016	Dastane G.G., **Thakkar H.,** Shah R., Perala S., Raut J., Pandit A.B.	Single and multiphase CFD simulations for designing cavitating venturi	**2019**	Chemical Engineering Research and Design	149			1	12
12	16CHE227	Mevada J., **Devi S.,** Pandit A.	Large scale microbial cell disruption using hydrodynamic cavitation: Energy saving options	**2019**	Biochemical Engineering Journal	143			151	160
13	16CHE223	Kulkarni K.S., **Ekhande S.B., Muley S**., Rajput S., Patwardhan A.V., Patwardhan A.W.	Synthesis and characterization of nanofiltration ceramic membranes using alumina doped with spent siliceous material from chemical industry	**2019**	Separation Science and Technology (Philadelphia)	54	9		1502	1511
14	18CHE223	Honmane B., Bhansali R., Deshpande T., Dhand A., **Mogha S.,** Mukherjee J., Ghosh D., Sarode G., Srivastava S., Dive A., Deshmukh D., Ghosh P.K.	Harnessing the osmotic energy of cane molasses by forward osmosis: process studies and implications for a sugar mill	**2020**	International Journal of Environmental Studies					
15	17CHE223	**Thakur S**., Gogate P.R.	Synthesis of Pd/C catalyst using formaldehyde reduction	**2020**	Chemical Engineering and Processing - Process	152		107939		

			method and application for ultrasound assisted transfer hydrogenation of corn oil		Intensificati on					
16	16CHE230	**Patil V.V**., Gogate P.R., Bhat A.P., Ghosh P.K.	Treatment of laundry wastewater containing residual surfactants using combined approaches based on ozone, catalyst and cavitation	**2020**	Separation and Purification Technology	239		1165 94		
17	18CHE226	Kulkarni H., **Bhange V**., Lishma P.L., Mathpati C.S.	Application of artificial intelligence to predict flow assisted corrosion in nuclear/thermal power plant	**2020**	Indian Journal of Chemical Technology	27	5		418	423
18	17CHE215	Chavan A., Vitankar V., **Shinde N.**, Thorat B.	CFD simulation of solar grain dryer	**2020**	Drying Technology					
	17CHE228	Patil, H.,**Shanmu gam, V.,** Marathe, K.	Studies in synthesis and modification of PES membrane and its application for removal of reactive black 5 dye	**2020**	Indian Chemical Enginner					
19	18CHE218	**Kukreja N.,** Ghoderao P., Dalvi V.H., Narayan M.	Cubic equation of state as a quartic in disguise	**2021**	Fluid Phase Equilibria	531		1129 08		
20	17CHE218	Hanchate N.,	Design of experiments and	**2021**	Internationa l Journal of	46	6		4776	4787

		Malhotra R., Mathpati C.S.	analysis of dual fluidized bed gasifier for syngas production: Cold flow studies		Hydrogen Energy					
21	16CHE211	Haramkar S.S., **Thombre G.N.**, Jadhav S.V., Thorat B.N.	The influence of particle(s) size, shape and distribution on cake filtration mechanics-a short review	**2021**	Comptes Rendus Chimie	24	2		255	265
22	19CHE225	**Das S.**, Bhat A.P., Gogate P.R.	Degradation of dyes using hydrodynamic cavitation: Process overview and cost estimation	**2021**	Journal of Water Process Engineering	42		102126		
23	19CHE207	**Sutar D. D.,** Jadhav S.V.	Life Cycle Assessment of Methanol Production by Natural Gas Route	**2021**	Materials Today: Proceedings					
24	18CHE209	**Desai B.**, Barodawala A., Dalvi V.H.	Efficient power generation along with thermal treatment of aqueous stream using low grade heat	**2021**	Energy	230		120712		
25	18CHE213	**Kodavatiganti S.**, Bhat A.P., Gogate P.R.	Intensified degradation of Acid Violet 7 dye using ultrasound combined with hydrogen peroxide, Fenton, and persulfate	**2021**	Separation and Purification Technology	279		119673		
26	19CHE223	**Kumar S.,** Jadhav	Life Cycle Assessment of Tomato Drying	**2021**	Materials Today: Proceedings					

		S.V., Thorat B.N.	in Heat Pump and Microwave Vacuum Dryers							

Note 1: The corresponding Master of Chemical Engineering student is highlighted in **bold**
Note 2: A publication year is considered while compiling this list. Hence a previous batch student may appear in the list

List of Awards from M. Chem. Research (2016-2021)

Sr No.	Student Name	Award	Year
1	Ms. Sneha R. Iyer	O.P. Narula Best M. Chem. Engg. Thesis Award	2016-17
2	Ms. Anisha Pawar	Shree Mangalam Drugs and Organics Ltd. Endowment for Securing Highest Marks in M. Chem. Engg.	2016-17
3	Mr. Harsh Thakkar	Shree Mangalam Drugs and Organics Ltd. Endowment for Securing Highest Marks in M. Chem. Engg.	2016-17
4	Ms. Rohini Ambati Bhatt	O.P. Narula Best M. Chem. Engg. Thesis Award	2017-18
5	Ms. Vaishali V	Shree Mangalam Drugs and Organics Ltd. Endowment for Securing Highest Marks in M. Chem. Engg.	2017-18
6	Mr. Radhish Gupta	Ambuja's Young Researcher's Award of IIChE	2017-18
7	Ms. Shruti Singh	Ambuja's Young Researcher's Award of IIChE	2017-18
8	Ms. Vaishali Venkat	Ambuja's Young Researcher's Award of IIChE	2018-19
9	Ms. Sudha Ramani	Ambuja's Young Researcher's Award of IIChE	2018-19
10	Ms. Nandita Saraf	Ambuja's Young Researcher's Award of IIChE	2018-19
11	Ms. Vaishali V	O.P. Narula Best M. Chem. Engg. Thesis Award	2018-19
12	Mr. Deepkumar Shah	Shree Mangalam Drugs and Organics Ltd. Endowment for Securing Highest Marks in M. Chem. Engg.	2018-19
13	Ms. Avni Singh	Ambuja's Young Researcher's Award of IIChE	2020-21
14	Mr. Akash Gupta	Ambuja's Young Researcher's Award of IIChE	2020-21
15	Mr. Naman Kukreja	Ambuja's Young Researcher's Award of IIChE	2020-21
16	Ms. Smruti Thakur	Innovative Student Projects Award - Masters Project	2020-21
17	Mr. Vishal Patil	O.P. Narula Best M. Chem. Engg. Thesis Award	2020-21

18	Ms. Avni Singh	Shree Mangalam Drugs and Organics Ltd. Endowment for Securing Highest Marks in M. Chem. Engg.	2020-21
19	Mr. Naman Kukreja	Shree Mangalam Drugs and Organics Ltd. Endowment for Securing Highest Marks in M. Chem. Engg.	2020-21
20	Mr. Shubham Kumar	Best Paper Award at International Chemical Engineering Conference 2021, NIT Jalandhar.	2021-22

1.2.3 Initiatives related to industry interaction including industry internship/summer training (10)

Institute Marks (10)

To know the challenges and present day practices of the Industry, the department invites the industry professionals to deliver, guide, and discuss/update the students with the current technological advancements. This gives a platform for the students to interact and learn from industry experts with respect to the Industrial practices. It also mutually benefits the industry, as students get job-ready to be employed in the Industry. The technology gap between the Institutes and Industry is thus narrowed down and employability of the students shoots up because of such exposure.

A. Industry supported laboratories

Laboratory	Industry Sponsor	Year
Chemical Engineering Laboratory	1968 Bachelor of Chemical Engineering Batch	2018-19
Process Control Laboratory Section – Chemical Engineering Laboratory	1968 Bachelor of Chemical Engineering Batch	2018-19
Heat Lab Section – Chemical Engineering Laboratory	1968 Bachelor of Chemical Engineering Batch	2019-20
Analytical Instrumentation Laboratory	Sanjay Gaikwad, 1987 Bachelor of Chemical Engineering Batch	2020
UGC – Networking Resource Centre (DST-FIST & UGC-CAS Supported)	Surendra Gupta, 1964 Bachelor of Chemical Engineering Batch Vijay Kelkar, Former Chairman, Finance Commission	2011

B. Industry involvement in the program design and curriculum

-The Syllabus Revision Committee plays a vital role in the designing of the program curriculum. This committee is constituted under the supervision of HoD, and there are 3-4 mandatory members from industries. Following is the list of industry experts who were involved in the program design and curriculum:

1. Dr Sandeep Gharat (Godrej Industries Limited)
2. Ravi Raghavan (Chemical Weekly)
3. Dr Sanjay Jain (GEIST Research Private Limited)
4. D K Deshpande (HPCL)
5. Dr Shamel Merchant (Exxon Mobil)

C. Industry involvement in partial delivery of any regular courses for students

CET2287: Life Cycle Assessment & Sustainability (Mr. Unmesh Gatfane – Thinkstep Gabi)
CET2161: Chemical Safety & Risk Management (Mr. Lalit Mohan - R&D and Technology Consultant, Dr. S. A. Nadgauda, Mr. V.V. Bhujle)

D. Industrial training of 4-6 months

Students completing industrial training in 2019-20:

Due to COVID-19 pandemic and lockdown restrictions many students could not complete their industrial training.

Sr. no.	Student Name	Roll No	Internship details	
			Company	Location (mode of work)
1	Hatim Taherali Rangwala	19CHE208	Fluidimensions	Work from home
2	Ulhas Rehpade	19CHE226	Fluidimensions	Work from home
3	Tanmay Padwal	19CHE220	Sabic R&T Bangalore	Work from home
4	S Dhiraj	19CHE222	Applied Materials India	Work from home
5	Komal Sao	19CHE211	Applied Materials India	Work from home
6	Ankeeta Shriya	19CHE203	FluiDimensions	Work from home
7	Rahil Shah	19CHE218	ZHCET, AMU	Work from home
8	Yash Mane	19CHE229	ZHCET, AMU	Work from home
9	Purva Walia	19CHE215	Air Products & Chemicals, India	Work from home
10	Deepanshu Kumar Gaur	19CHE206	ZHCET, AMU	Work from home

Students completing industrial training in 2018-19:

Sr. No.	Student Name	Roll No	Internship details	
			Company	Location

1	Akash Gupta	18CHE201	Savita oil technologies limited	Silvassa, DNH
2	Akshay Prabhakar	18CHE202	Bosch Ltd.	Bangalore
3	Apoorva Pandey	18CHE204	Bhavi Plast Pvt Ltd.	Thane
4	Avni Singh	18CHE205	Grasim Industries Ltd.	Mumbai
5	Ayush Mittal	18CHE206	Nivea India	Mumbai
6	Aniket Shankarrao Bonde	18CHE207	Bharat Petroleum Corporation Limited	Mumbai
7	Debolina Ranjit Deb	18CHE208	Hindustan Unilever Ltd	Karnataka
8	Brijesh Pravinbhai Desai	18CHE209	Grasim Industries Ltd.	Mumbai
9	Gurdev Singh	18CHE210	Fluidimensions Engineering Simulations and Consulting	Pune
10	Harshad Dattatray Awari	18CHE211	Technoforce Solution Pvt Ltd	Nashik
11	Jayashri Yadav Shahare	18CHE212	Tridiagonal solutions	Aundh
12	Kodavatiganti Satya Narayana	18CHE213	Tridiagonal solutions	Aundh
13	Ashish Arvindbhai Kundaliya	18CHE214	Savita Oil Technologies Ltd.	Silvassa, DNH
14	Mahammadkhan Rustamkhan Pathan	18CHE215	Bosch Ltd.	Bangalore
15	Mohit Chandrashekhar Jagtap	18CHE216	Fabex Engineering	Nashik
16	Mohsin Ahamad Shaikh	18CHE217	Rallis India ltd.	Bengaluru
17	Naman Kukreja	18CHE218	Grasim Industries Ltd.	Mumbai
18	Narendran Sunildutt	18CHE219	Hindustan Unilever Ltd	Bengaluru
19	Raj Dilip Musale	18CHE220	Bharat Petroleum Corporation Limited	MUMBAI
20	Rohit Maheshwari	18CHE221	Bharat Petroleum Corporation Limited	MUMBAI
21	Rohit Kousika	18CHE222	zoetis pharmaceutical research Pvt ltd	Mumbai
22	Saransh Mogha	18CHE223	DOW Chemical International pvt. ltd.	Mumbai

23	Shwet Sunny	18CHE224	Bharat Petroleum Corporation Limited	Mumbai
24	Sweta Ashok Modak	18CHE225	Science for society	Mumbai
25	Vijay Ashok Bhange	18CHE226	Hindustan Unilever Ltd	Bengaluru
26	Vinaypriy Maroti Wane	18CHE227	Fabex Engineering	Nashik
27	Vipul Gupta	18CHE228	Adya Enterprise	Mumbai
28	Viral Ramesh Rahangdale	18CHE229	Tridiagonal solutions	Aundh
29	Chhayendri Lokhande	18CHE230	science for society	Mumbai

Students completing industrial training in 2017-18:

Sr No	**Name**	**Roll No**	**Internship details**	
			Company	**Location**
1	Aditya Abhijit Upasani	17CHE201	Grasim Industries	Mumbai
2	Ajaykumar Rajendrakumar Varma	17CHE202	Technoforce	Nashik
3	Akash Patel	17CHE203	Fermenta Biotech Ltd.	Dahej
4	Anjali Krishnan	17CHE204	Indian Glycold Ltd	Kashipur
5	Chandrashekhar Adinath More	17CHE205	UDHE	Mumbai
6	Chirag Bhaskar Bhor	17CHE206	HUL	Banglore
7	Deepkumar Samirbhai Shah	17CHE207	Loreal	Mumbai
8	Digvijay Vasant Bagul	17CHE208	BhaviPlast	
9	Dorothy Narjary	17CHE209	Indian Glycold Ltd	Kashipur
10	Gurunath Epili	17CHE210	Grasim Industries	Mumbai
11	Khushboo	17CHE211	HUL	Banglore
12	Lyangom Lepcha	17CHE212	HUL	Banglore
13	Mamta Nair	17CHE213	Balmer Lorry	Chennai
14	Nikhil Balaram Mhatre	17CHE214	TCS	Pune
15	Nikhil Vijay Shinde	17CHE215	Tridiagonal Solutions	Pune
16	Purvesh Kore	17CHE216	UDHE	Mumbai
17	Ravi Kumar	17CHE217	Fermenta Biotech Ltd.	Dahej
18	Robin Malhotra	17CHE218	Technoforce	Mumbai
19	Rohit Gulia	17CHE219	Fermenta Biotech Ltd.	kullu

20	Sagar Gupta	17CHE220	Toyo	Mumbai
21	Shefalika Singh	17CHE221	HUL	Banglore
22	Shivani Gupta	17CHE222	Grasim Industries	Mumbai
23	Smruti Mahendra Thakur	17CHE223	HPCL Green R & D	Banglore
24	Sujith V S	17CHE224	Technoforce	Nashik
25	Swapnil Meshram	17CHE225	HUL	Banglore
26	Viveka Kaur	17CHE227	Voltas	Mumbai
27	Vignesh Shanmugam	17CHE228	Adhya	Mumbai
28	Aakash Chakraborty	17CHE230	Fermenta Biotech Ltd.	Kullu
29	Prajakta Jaipal Medhane	17CHE231	DOW	Mumbai
30	Akash Rameshwar Kubade	17CHE232	TCS	Pune

Internship assessment is conducted in conjunction with the respective industry mentor. The evaluation criteria is as follows:

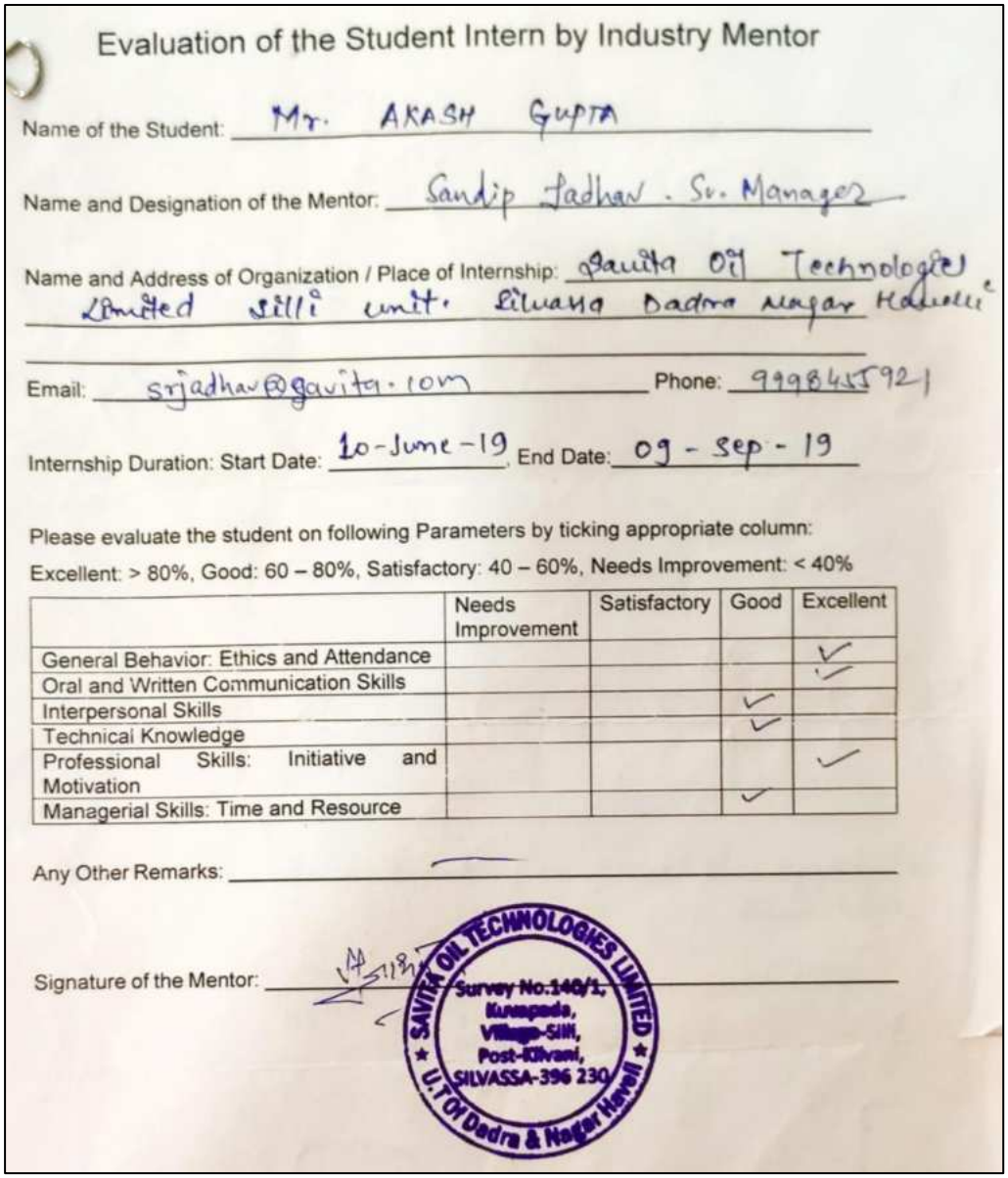
Sr No.	Assessment Criterion	Marks (Total 450)
1	Background of Project	**/25**
2	Experiment performed/Mathematical modelling if any/Design/Techno-economic feasibility/Analysis of data	**/125**
3	Conclusion	**/30**
4	Writing Skills including formating as per given instruction	**/30**
5	Presentation based on the work perform and its analysis/Presentation Skills	**/90**
6	Marks Given by Industry Mentor	**/150**
	Total marks (out of 450) :	**/450**
Outstanding: 100%-90%; Excellent: 89.99%-80%; Very Good: 79.99%-70%; : 69.99%-60%; Reasonable: 59.99%-50% (these are only guidelines)		

Recommendation (please choose ONE):

The report submitted (Industrial Training (in Plant Training)) by the candidate is:

1. Acceptable, and may be regarded as final in the present form.
2. Acceptable with minor revisions. The revisions have been indicated to the student during the presentation.

Following is an example of the industry mentor evaluation form:



Evaluation of the Student Intern by Industry Mentor

Name of the Student: Mr. AKASH GUPTA

Name and Designation of the Mentor: Sandip Jadhav . Sr. Manager

Name and Address of Organization / Place of Internship: Gavita Oil Technologies Limited Silli unit. Silvasa Dadra Nagar Haveli

Email: srjadhav@gavita.com Phone: 9998455921

Internship Duration: Start Date: 10-June-19 End Date: 09-Sep-19

Please evaluate the student on following Parameters by ticking appropriate column:

Excellent: > 80%, Good: 60 – 80%, Satisfactory: 40 – 60%, Needs Improvement: < 40%

	Needs Improvement	Satisfactory	Good	Excellent
General Behavior: Ethics and Attendance				✓
Oral and Written Communication Skills				✓
Interpersonal Skills			✓	
Technical Knowledge			✓	
Professional Skills: Initiative and Motivation				✓
Managerial Skills: Time and Resource			✓	

Any Other Remarks:

Signature of the Mentor:

SAVITA OIL TECHNOLOGIES LIMITED
Survey No.140/1, Kurupada, Village-Silli, Post-Kilvani, SILVASSA-396 230
U.T Of Dadra & Nagar Haveli

E. Lectures/Seminars by Industry Professionals:
List of Invited Guest Lectures: (2016-2020)

Sr.No.	Date	Name of Professional	Title
1.	21/01/2016	Antony Francis Asst Vice President – Long term Projects and Initiatives, Reliance Industries Limited, Mumbai.India	Refinery – Products and Economics
2.	23/03/2016	Dr. Sameer Bharadwaj Vice President & GM at Cabot Corporation Boston, Massachusetts	Developing & Commercializing New Technologies

3.	7/04/2016	Vinay Anil Bavdekar	Integrating Stochastic Model Predictive Control and Experiment Design for Nonlinear Systems
4.	2016-2017	Dr. S. Ganapathy M.S., FIE (GDY) Director, Sales & Marketing, Chirag Ice Factory Pvt. Ltd.	Golden Jubilee Visiting Fellowship
5.	2016-2017	Dr. Deepanjan Bhattacharya Eastman Chemical Company Global Technology Director	Shri. B. S. Rajpurohit Visiting Faculty and Oration Endowment
6.	2016-2017	Dr. Mugdha Gadgil Senior Scientist Chemical Engineering Division CSIR- NCL, Pune	Professor R.A. Rajadhyaksha Memorial Lecture Series
7.	2016-2017	Dr. Rajender S. Varma, (GDY) Sustainable Technology Division, Clean Processes Branch, National Risk Management Research Laboratory U. S. Environmental Protection Agency	K. J. Somaiya Visiting Professor of Chemical Engineering Endowment
8.	2016-2017	Dr. Mukund Keshao Gurjar Director (R&D) & Chief Scientific Officer, Emcure Pharmaceuticals Limited	Dr. KKG Menon Memorial Lecture Endowment
9.	2016-2017	Dr. B. Gopalan,Ph.D. Chief Scientific Officer & Executive Director, Drug Discovery Research, Orchid & Pharma Ltd.	Professor V. M. Kulkarni Endowment Fund
10.	2016-2017	Dr. Kailas Thakker 317 Dalton Drive Raleigh.	AAIPS- Dr. R. S. Baichwal Pharmaceutical Seminar
11.	2016-2017	Dr. Phool Kumar Patanjali Institute of Pesticide Formulation Technology (Under Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, (Govt. of India)	Jayvee Organics & Polymers (P) Ltd., Visiting Fellow in Polymer Additives and Compounding.

12.	2017-2018	Dr. Swarnendu Bikas Kar Managing Director Behr Process Paints India Pvt. Ltd	Sauradip Chemical Industries Pvt. Ltd. Visiting Fellowship
13.	2017-2018	Dr. Mohan Karmarkar Consultant, Group Manager-SHEQ at Jacobs Engineering UK Ltd	Golden Jubilee Visiting Fellowships
14.	2017-2018	Dr. D. Srinivasa Reddy Senior Scientist, Organic Chemistry Division (OCD) CSIR-National Chemical Laboratory	Dr. KKG Menon Memorial Lecture Endowment
15.	2017-2018	Dr. Krishnan Ravikumar Chief Scientist & Head Center for X-ray Crystallography CSIR-Indian Institute of Chemical Technology Hyderabad	Professor S.K. Pradhan Endowment" in Pharmaceuticals Science & Technology
16.	2017-2018	ShriTapan Kumar Dhar Vice President (R&D) Berger Paints India Ltd	Sauradip Chemical Industries Pvt. Ltd. Visiting Fellowship
17.	2018-2019	Dr. Ms. Carmen Guguta (BNT) Product Manager, Technobis, The Netherlands	Golden Jubilee Visiting Fellowships
18.	2018-2019	Dr. Michel Wong Chi Man, (RVJ) EcoleNationaleSupérieure de Chimie de Montpellier, France	Golden Jubilee Visiting Fellowships
19.	2018-2019	Dr. Vijay G. Habbu (GDY) Senior Vice President (Chemicals), Reliance Industries Ltd.	Professor W. B. Achwal Oration
20.	2018-2019	Dr. Deepak Jain (BNT) Director, Zotis Pharmaceutical Research Pvt. Ltd. D-3/CL, MIDC Industrial Area, Turbhe	K. J. Somaiya Visiting Professor of Chemical Engineering Endowment
21.	2018-2019	Dr. ArunChandavarkar	Dr. KKG Menon Memorial Lecture Endowment

		The Chief Executive Officer (CEO) & Joint Managing Director of Biocon Ltd	
22.	2018-2019	Dr. Santylal Daya Faculty of Pharmacy Rhodes University Grahamstown	Professor (Mrs.) M.R. Baichwal Visiting Fellowship in Pharmaceutical Science and Technology
23.	2018-2019	Dr. Mukund Shankar Chorghade (adjunct Prof.) Associate of the Department of Chemistry and Chemical Biology FAS^FCOR^CCB-Oth, Harvard, FAS Chemistry &Chem Biology Mallinckrodt Chemistry Lab	Professor V. M. Kulkarni Endowment Fund
24.	2018-2019	Dr. Prakash D. Trivedi (adjunct Prof.) SBU HEAD - POLYMERS Gharda Chemicals	Tipco - UICT Diamond Jubilee Visiting Fellowship in Thermosets
25.	2018-2019	Shri S. Mahesh Anand President-Decorative Business Nippon Paint (India) Private Limited No 3, 3rd floor, club house Road	Sauradip Chemical Industries Pvt. Ltd. Visiting Fellowship
26.	2018-2019	Dr. Swaminathan Sivaram (RVA) Honorary Professor and INSA Senior Scientist, Former Director, CSIR- NCL, Pune	Dr. M.V. Nimkar Foundation Endowment Lecture
27.	2018-2019	Dr. Nilesh V. Mistry (GSS) Chief Technology Officer Lonsen-Kiri Chemicals Industries Ltd. Vadodara	Sauradip Chemical Industries Pvt. Ltd. Visiting Fellow in the areas of Dyestuff Technology and Textiles Processing Technology
28.	2019-2020	Dr. Nagendran Balasundram, Regional Manager (South Asia), MPOB	Professor A. Sreenivasan Felicitation Lectureship

29.	2019-2020	Dr. Narendra Chirmule (Ratnesh Jain) Co-founder Symphonytech Biologics, Bangalore and Philadelphia	Cipla Distinguished Fellowship in Pharmaceutical Science
30.	2019-2020	Dr. Kailas D. Thakker Co-Founder and Chief Operating Officer of Tergus Pharma, USA	AAIPS- Dr. R. S. Baichwal Pharmaceutical Seminar
31.	2019-2020	Mrs. Maharukh Rustomjee Managing Partner of Amaterasu Lifesciences LLP	AAIPS- Dr. R. S. Baichwal Pharmaceutical Seminar
32.	2019-2020	Shri Laxman Nikam (Polymer) Vice President-Technical Kansai Nerolac Paints Limited	Sauradip Chemical Industries Pvt. Ltd. Visiting Fellowship
33.	2019-2020	Dr. Dietmar Hueglin (RVA) Director Innovation Campus Mumbai at BASF Chemicals India Pvt Ltd Vice President Advanced Materials & Systems Research, Mumbai	Dr. M.V. Nimkar Foundation Endowment Lecture
34.	2020-2021	Dr. Prasad Ramanathan(ICT Mumbai-IOC Odisha Campus) Sr. Director – AI/ML Center of Excellence, Automation Development Center	The Dow Professor M.M. Sharma Distinguished Visiting Professorship in Chemical Engineering
35.	07/02/2018	Kazuo Takatsuka Fukui Institute for Fundamental Chemistry, Fukui Institute for Fundamental Chemistry	Mechanism and Dynamics of Charge Separation in Water Splitting
36.	16/09/2016	Mr. Jack Noble General Manager, Water & Waste Water Division Koch Membrane, Darlington United Kingdom	Polymer Recovery and reuse using Membrane Technology

37.	11/10/2019	Laura Dietsche Senior Research Scientist/Technology Leader Dow Chemicals- Materials Science & Engineering	Using Computational Fluid Dynamics to Solve Polymer Processing and Delivery Challenges
38.	06/02/2020	Narayan Ramesh Lead R & D Director, Engineering & Process Sciences (E&PS), Core R&D The Dow Chemical Company, USA	Research in Industry

List of Endowment Lectures: (2016-2020)

Sr. No.	Date	Name of Professional	Title	Endowment
1	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
2	16/09/2016	Mr. Jack Noble General Manager, Water & Waste Water Division, UK	Polymer recovery & reuse using membrane Technology	NA
3	24/11/2016	Mr. S. Ganapathy, M.S., FIE Chartered Engineer & Project Consultant	Status of Chemical Industries in India & Job Prospects	N.A
4	06/01/2018	Dr. Subhas K. Sikdar USEPA, Cincinnati, OH 45237 Jackson, MS, USA	Cleaner Technologies: Roles of Industry, Government, and Academia	Dr. G.P. Kane Visiting Professorship in Chemical Engineering
5	30/01/2018	Dr. Mohan Karmarkar Consultant Group Manager-SHEQ at Jacobs Engineering UK Ltd	Design & Safety	Golden Jubilee Visiting Fellowship

6	03/05/2018	Dr. Deepak Jain Zoetis Pharmaceutical Research Pvt. Ltd.	"Quality by Design in Pharmaceutical Industry: Concepts and Examples highlighting the role of Chemical Engineers	K.J. Somaiya Visiting Professorship
7	23/07/2018	Dr. Ms. Carmen Guuta, Product Manager, Technobis, The Netherlands	Towards effective crystallization by using small scale parallel crystallizers	Golden Jubilee Visiting Fellowship

1.2.4 Participation of Industry professionals in curriculum development, as examiners, in major projects (10) **Institute Marks (10)**

The Syllabus Revision Committee plays a vital role in the designing of the program curriculum. This committee is constituted under the supervision of HoD, and there are 3-4 mandatory members from industries. Following is the list of industry experts who were involved in the program design and curriculum:

1. Dr Sandeep Gharat (Godrej Industries Limited)
2. Ravi Raghavan (Chemical Weekly)
3. Dr Sanjay Jain (GEIST Research Private Limited)
4. D K Deshpande (HPCL)
5. Dr Shamel Merchant (Exxon Mobil)

Following is the list of Examiners from industries for the M. Chem. Projects (according to their year of admission):

Sr. No.	Roll No.	Student Name	Project Name	Referee (Industry)
1	18CHE206	Ayush Mittal	Preparation and Characterization of Boswellia Serrata Oil-in-Water Nanoemulsion	Manoj Kharkar (Reliance Industries Limited)
2	18CHE224	Shwet Sunny	A Combinatorial approach to lower the consumption of fresh water and detergent in household laundry washing machines	Manoj Kharkar (Reliance Industries Limited)
3	18CHE210	Gurdev Singh	Life cycle assessment of protein extraction from rice bran	Dr. Parag Kanthale (Aditya Birla Science and Technology Company Private Limited)

4	18CHE202	Akshay Prabhakar	Solubilization in Mixed Surfactant Systems	Dr. Parag Naik (Indian Tobacco Company)
5	18CHE228	Vipul Gupta	Studies in Removal of Metformin from wastewater using Micellar Enhanced Ultrafiltration	Dr. Janaki A. Patwardhan (Industrial consultant)
6	18CHE226	Vijay Ashok Bhange	Computational and Experimental Study of Flow Accelerated Corrosion Phenomenon in Pipe Fittings	Dr. Mayur Gandhi (GMM Pfaudler)
7	18CHE204	Apoorva Pandey	Supported metal catalysts preparation for selective hydrogenation of benzene.	Dr. Ganesh Ramachandran (Biocon Ltd.)
8	18CHE220	Raj Dilip Musale	Treatment of dye polluted waste water using modified polyethersulfone membrane	Dr. Janaki A. Patwardhan (Industrial consultant)
9	18CHE213	Satyanarayana Kodavatiganti	Decolorization of Acid Violet - 7 dye containing wastewater using Ultrasonic bath combined with advanced oxidation processes.	Dr. Sagar Deshpande (Pulp and fibre innovation center, grasim industries)
10	18CHE216	Mohit Chandrashekhar Jagtap	Studies in production of Cobalt Hexacyanoferrate nanoparticles by Spinning Disk Reactor	Dr. Satish Dasharath Shewale (Deepak Nitrite Ltd)
11	18CHE205	Avni Singh	Design of reactive dividing wall column for the synthesis of butyl levulinate using MATLAB	Dr. B. N. Murthy (Reliance)
12	18CHE214	Ashish Arvindbhai Kundaliya	Energy and Exergy Analysis of Absorption Refrigeration System	Mr. Vijay Venkat Bhujle (GVS Cibatech Private Limited)
13	18CHE211	Harshad Dattatray Awari	Ultrasound assisted cooling crystallization of ampicillin trihydrate	Dr. Vivek Vitankar (FluiDimensions - Engineering Simulations and Consulting)
14	17CHE203	Akash Patel	Synthesis of 4-hydroxy-2-butanone from 1,3-butanediol	Dr. Sangeeta Srivastava

				(Godavari Refineries Ltd.)
15	17CHE206	Chirag Bhaskar Bhor	New adsorbent from Polyacrylonitrile	Dr. Soumitra Kar (BARC)
16	17CHE231	Prajakta Jaipal Medhane	Green route for the Synthesis of Maleic acid from Furfural	Dr. Sangeeta Srivastava (Godavari Refineries Ltd.)
17	17CHE218	Robin Malhotra	2D CFD modelling of dual fluidized bed gasifier	Dr. Sagar Deshpande (Pulp and fibre innovation center, grasim industries)
18	17CHE212	Lyangom Lepcha	Life Cycle Assessment of biodiesel production using waste Cooking Oil	Dr. Satish Dasharath Shewale (Deepak Nitrite Ltd)
19	17CHE224	Sujith V S	Studies in hydrotreatment of Karanja Oil to produce Green Diesel over Novel Non-Sulfided Nickel based Catalyst	Dr. Ganesh Kumar Gandi (Godavari Refineries Ltd.)
20	17CHE227	Viveka Kaur	Study of Multicomponent working fluids for Heat Based Vapor Absorption Refrigeration Cycle.	Dr. Janaki A. Patwardhan (Industrial consultant)
21	17CHE216	Purvesh Kore	Computational Fluid Dynamics Simulation of Spray Dryer	Dr. Archis A. Yawalkar (Sai Vishwa Speciality Chemicals Pvt. Ltd)
22	17CHE228	Vignesh Shanmugam	Fabrication and Characterization of Polyethersulphone Impregnated with Fe_2O_3 Reactive Membranes for Waste Water Treatment	Dr N T Joshi (Padmaja Aerobiologicals)
23	17CHE201	Aditya Abhijit Upasani	Ultrasound assisted particle size reduction of palygorskite clay.	Dr. Vivek Vitankar (FluiDimensions - Engineering Simulations and Consulting)
24	17CHE207	Deepkumar Samirbhai Shah	Bleach Activators: Comparative Study and Effect	Manoj Kharkar (Reliance Industries Limited)

			of washing parameters on Indian Stains	
25	17CHE210	Gurunath Epili	Hydrodynamics Study of the Pulsed Disc and Doughnut Extraction Column	Dr. K. K. Singh (BARC)
26	17CHE211	Khushboo Mangla	Design of continuous washing system for natural and derivatized guar gum	Parasu Veera Uppara (UPL Specialty Chemicals)
27	17CHE217	Ravi Kumar	Design of Stirred Tank Reactors: Gas-Liquid Dispersion in Non-Newtonian Fluids	Dr. K. K. Singh (BARC)
28	17CHE222	Shivani Gupta	Experimental investigation of a novel Thermal Diode receiver for solar collectors	Dr. Sagar Deshpande (Pulp and fibre innovation center, grasim industries)
29	17CHE221	Shefalika Singh	Treatment of textile waste water using MFC-MBR hybrid system.	Dr N T Joshi (Padmaja Aerobiologicals)
30	17CHE202	Ajaykumar Rajendrakumar Varma	Experimental studies in anti-solvent crystallization	Dr. Manoj A. Tike (Eternis Fine Chemicals Limited)
31	17CHE205	Chandrashekhar Adinath More	Studies in the recovery of phenol from dihydric phenol mixture	Dr. A . R. Mahulkar (Reliance Technology Group (RTG))
32	16CHE204	Akshita Anand Mogaveera	Electrolytic Reduction of Carbon Dioxide using Ionic Liquids	Dr. Shirish H. Sonawane (National Institute of Technology Warangal)
33	16CHE222	Sanket Devidas Chafle	A Novel Mesh-free solver for Computational Fluid Dynamics using Voronoi tessellations.	Dr. B. N. Murthy (Reliance)
34	16CHE203	Akshay Gajanan Gotmare	Intensification of Catalytic Liquefaction Process for Conversion of Municipal Solid Waste into Energy	Dilip Anjikar (Hindusthan Speciality Chemicals Limited)
35	16CHE220	Ranjani V	Process Intensification of n-Butyl Levulinate Synthesis	Dr. A . R. Mahulkar (Reliance

				Technology Group (RTG))
36	16CHE219	Rahul Anil Walwatkar	PROCESS INTENSIFICATION OF ENZYMATIC SYNTHESIS OF TREHALOSE LINOLEATE USING ULTRASOUND	Dr. Satish Dasharath Shewale (Deepak Nitrite Ltd)
37	16CHE207	Bhushan Prakash Bamane	Life cycle assessment of mangiferin extraction from Mangifera indica L. leaves	Dr. Satish Dasharath Shewale (Deepak Nitrite Ltd)
38	16CHE201	Aadil Nishubhai Bharucha	Solvent extraction studies of aqueous Li+ /Co+2 relevant to Li and Co recycle from Li- ion battery	Dr. Mrs. Sulekha Mukhopadhyay (BARC)
39	16CHE205	Amit Padmakar Gadhekar	CLEANING OF FOULED POLYMERIC MEMBRANES USING ULTRASOUND	Dr. Sanjay V. Mehendale (Ion Exchange India Ltd)
40	16CHE206	Arvind Vinod Sikarwar	Design of Solar Conduction Dryer using Reaction Engineering Approach	Dr. Preeti Subhedar (Novozymes South Asia Pvt. Ltd.)
41	16CHE210	Govind Halawai	Design and Implementation of a combined absorption-compression refrigeration system for dairy industry	Dr Sudhir P Deshpande (PPG Asian Paints Pvt. Ltd.)
42	16CHE212	Akshay Prabhakar Hatewar	Preparation and modification of Polyethersulfone/Polyethylene glycol ultrafiltration membranes for the treatment of real laundry wastewater.	Dr N T Joshi (Padmaja Aerobiologicals)
43	16CHE214	Nandini Rajendra Singh Chauhan	Process Design for Epoxidation of Aromatic Derivatives	Shirish Sirjoshi (Ion Exchange India Ltd)
44	16CHE216	Prasad Popatrao Chaudhari	Synthesis of activated carbon from styrene divinyl benzene polymer resin	Dr. Niteen A. Deshmukh (Sanzyme Biologics)
45	16CHE218	Prayas Kulshreshtha	Design aspects of bio-ethanol dehydration in fixed bed adsorber	Dr. B. N. Murthy (Reliance)

46	16CHE221	Rinin Rajan	Design of steam raiser from hot oil for solar thermal applications	Dr. B. N. Murthy (Reliance)
47	16CHE223	Saurabh Muley	Synthesis and characterisation of dendritic extractants for precious metal partitioning	Dr. Sundeep P. Deshmukh (Clariant)
48	16CHE224	Shankesh Babasaheb Ekhande	Studies in membrane synthesis and applications	Dr. Sundeep P. Deshmukh (Clariant)
49	16CHE226	Sudha Ramani	Recovery of Lithium from Seawater Bitterns by Solvent Extraction	Dr. Niteen A. Deshmukh (Sanzyme Biologics)
50	16CHE229	Vaishali V	Hydrodynamics of Asymmetric Rotary Agitated Columns and Pulsed Disc-Doughnut Columns	Dr. Niteen A. Deshmukh (Sanzyme Biologics)
51	16CHE230	Vishal Vishnu Patil	Degradation of wastewater from laundry processing containing residual surfactants	Parasu Veera Uppara (UPL Specialty Chemicals)
52	18CHE212	Jayshree Shahare	Application of Magnetic Nanoparticles on Mitigation of Heavy Metals	Dr. Preeti Subhedar (Novozymes South Asia Pvt. Ltd.)

1.2.5 Quality of laboratory work given (20) Institute Marks (20)

There are two laboratory courses in the program which includes experimental and simulation environment. The contents of the practical courses are given below:

CEP 2351: Chemical Engineering Laboratory

Sr no	Experiment Name
1	Flow Characteristics of Control Valves
2	Characteristics of Flow through Coil
3	Plate Heat Exchanger
4	Heat Transfer by Natural Convection
5	Distillation of Toluene-Xylene in Packed and Plate Column
6	Vacuum Drying
7	Filtration Characteristics of Sparkler Filter and Agitated Nutsche filter
8	Gas Absorption in Packed Column with Reaction
9	Kinetics of Phenol Degradation

10	Kinetics of Dehydration of tert-Butanol
11	Thermodynamic Properties of Liquid Mixtures
12	Yokogawa Process Control Module: Level and Flow

CEP 2354: Process Simulation and Modelling Laboratory:

PART A	(a) Teaching good programming practices: Separating input/detailed calculations/output, cell color coding, graphs/plots as per scientific writing standards Case Studies: (1) Ideal binary continuous distillation column design (2) Friction factor estimation (solution of non-liear equation using "GOALSEEK") (3) Non-isothermal CSTR design (usage of "SOLVER") (b) Programming with visual basic at the back end of excel Case Studies: (1) Ideal binary continuous distillation column design (2) Design of Multieffect evaporator system
PART B	(a) Solution of simultaneous linear algebraic equations: Stagewise operations in mass transfer (b) Solution of single non-linear equation: Equation of States, friction factor calculations (c) Solution of simultaneous non-linear algebraic equations: Flash vessel, Non-isothermal CSTR design (d) Numerical interpolation: Moody chart (friction factor), Eckert chart (packed bed design) (e) Numerical Integration: Estimation of number of transfer units (NTUs) in absorption column design (f) Numerical differentiation: Fitting intrinsic kinetics based on conversion-time data (g) Solution of Simultaneous ordinary differential equations (Initial value problems): Concentration profiles in series-parallel reactions (h) Solution of Simultaneous ordinary differential equations (Boundary value problems): Design of chromatographic columns (i) Solution of Elliptical partial differential equations: Conduction heat transfer in 2-D plate (j) Solution of parabolic partial differential equations: Unsteady conduction equation (1-D space)
PART C	(a) Property Estimation (b) VLE data at different pressure/temperature condition for multicomponent systems (c) Basic flow sheets: mixers, heaters (d) Reactor Models (e) Short-cut and rigorous design of distillation systems (f) Recycle calculations: tear-stream approach

	(g) Flow sheet simulation: reactors + separators together
PART D	e.g. (i) design multicomponent distillation system (ii) design simulated moving bed system etc.

2 PROGRAM OUTCOME (75) Institute Marks (75)

2.1 Establish the connect between the courses and POs (15) Institute Marks (15)

POs	Statement	Courses
PO1	An ability to independently carry out research/investigation and development work to solve practical problems	CET 2151, CET 2152, CET 2153, HUP 2101, CET 2251, CEP 2351, CEP 2352, CEP 2353, CET 2154, CET 2155, CET 2156, CET 2252, CEP 2355, CEP2756, CET2287
PO2	An ability to write and present a substantial technical report/document	HUP 2101, CEP 2351, CEP 2352, CEP 2353, CEP 2354, CEP 2355, CEP2356, CEP2756, CET 2287
PO3	Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program	CET 2151, CET 2152, CET 2153, CET 2251, CEP 2353, CET 2154, CET 2155, CET 2156, CET 2287, CET 2252, CEP 2355, CEP2756, CET 2287
PO4	Students should be able to apply as a researcher or entrepreneur the social and environmental awareness of chemical engineering and cope up with futuristic technologies which will lead chemical engineering towards sustainability	CET 2151, CET 2152, CET 2153, HUP 2101, CET 2251, CEP 2351, CEP 2353, CET 2154, CET 2155, CET 2156, CET 2287, CET 2252, CEP 2354, CEP 2355, CEP2356, CEP2756, CET 2287

2.2 Attainment of Program Outcomes (60) Institute Marks (60)

2.2.1 Describe the assessment tools and processes used to gather the data upon which the evaluation of Program Outcome is based (20) Institute Marks (20)

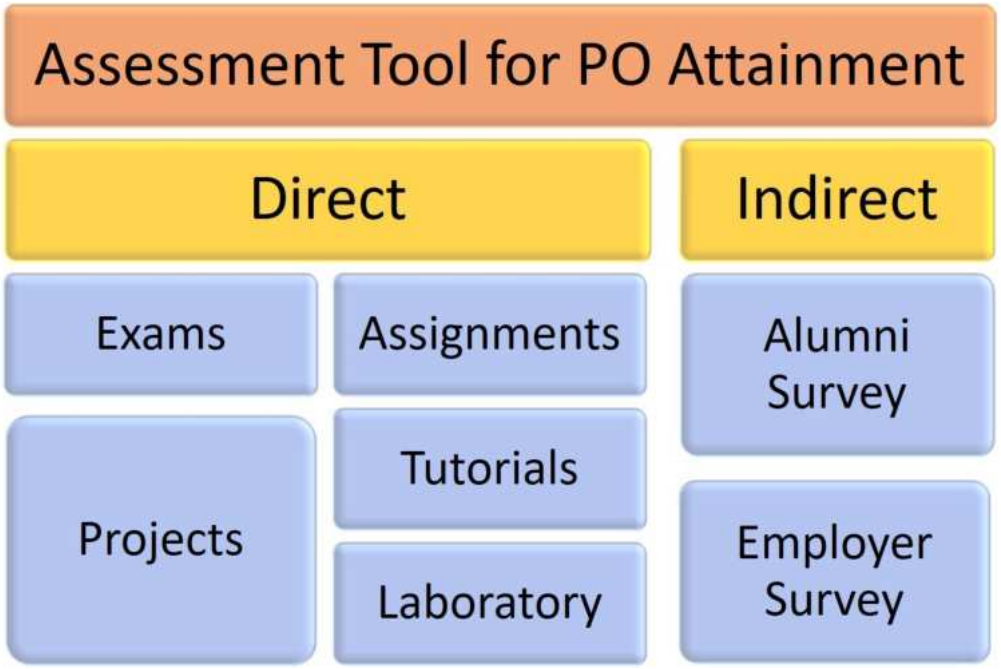


Figure 1. Assessment tools for PO attainment

Calculation Methodology with Sample Calculation

We will illustrate the calculation methodology with sample calculation using the example of the course CET2156 for the academic year 2018-2019.

A. Sample calculation for CO attainment:

1. First a matrix is created which maps the COs with the various assessment exams. The same table also maps the COs with the POs, where 3, 2 and 1 denote strong, medium and weak correlation, respectively. The matrix is as shown in Table 1.

Table 1: Mapping of CO with assessment exams and with POs

CO	CA	MidSem	EndSem	Remarks	PO1	PO2	PO3	PO4
Marks	10	15	25					
CO1	20	40	20	1. Describe and discuss principles of various types of reactors (K2)	3	2	3	3
CO2	30	40	20	2. Calculate rates of reactions based on given reaction scheme (K3)	3	2	3	3
CO3	30	20	30	3. Design various components of reactors used in industrial practice (K5)	3	3	3	3
CO4	20	0	30	4. Compare various reactors and select an appropriate reactor for a given situation (K5)	3	3	3	3

2. As can be seen from Table 1, each assessment exam (CA – continuous assessment, MidSem – mid semester exam, EndSem – end semester exam) is associated with a distribution of COs – the distribution summing up to 100%. Marks scored in that exam are automatically distributed amongst the COs in proportion to the distribution allocated to the COs in that exam.

Hence, the maximum attainment for CO1 in the semester is $20\times10+40\times15+20\times25=1300$.

Now, we turn to the results of the assessment for each student on the student roll. The Table 2 shows a partial table of the scores in each assessment by the student. Taking the example of the first student i.e. 18CHE201, we have the student's attainment in CO1 as $20\times9+40\times11+20\times21=1040$.

Table 2: Results of the direct assessment

Sr. No.	Roll No.	CA	MidSem	End Sem
1	18CHE201	9	11	21
2	18CHE202	9	11	20
3	18CHE204	10	12	18
4	18CHE205	10	9	11
5	18CHE206	10	10	17

6	18CHE207	9	9	15
7	18CHE209	10	9	13
8	18CHE210	9	6	10

3. We also defined the target attainment for a classroom course as 0.7. Hence the CO1 attainment of the student 18CHE201 is $\frac{1040}{1300} \times \frac{1}{0.7} = 1.14$. Since this number is greater than 1, we set it as 1. We calculate the attainments of each student in the class for each CO as shown in Table 3.

Table 3. COs calculated as a result of direct assessment for CET2156 for the academic year 2018-2019.

Roll No	CA	MidSem	EndSem	CO1	CO2	CO3	CO4
18CHE201	9	11	21	1	1	1	1
18CHE202	9	11	20	1	1	1	1
18CHE204	10	12	18	1	1	1	1
18CHE205	10	9	11	0.86	0.9	0.86	0.8
18CHE206	10	10	17	1	1	1	1
18CHE207	9	9	15	0.92	0.95	0.95	0.95
18CHE208	10	10	20	1	1	1	1
18CHE209	10	9	13	0.9	0.94	0.92	0.89
18CHE210	9	6	10	0.68	0.72	0.73	0.72

4. We then calculated overall % CO attainment by taking median of each CO column. We considered the median instead of average values because it is robust to outliers. We thus obtained a percent CO attainment for each subject as shown in Table 4 for CET2156 for the academic year 2018-2019.

Table 4. % CO attainment for CET2156 for the academic year 2018-2019.

CO	CA	MidSem	EndSem	Max CO Attainment	% CO Attainment
Marks	10	15	25	100	100
CO1	20	40	20	1300	92.31
CO2	30	40	20	1400	94.9
CO3	30	20	30	1350	98.41
CO4	20	0	30	950	97.74

B. Sample calculation for PO attainment (Direct Assessment)

1. Using % CO attainment information from Table 4, we calculated the PO attainment for each subject using the matrix defined in Table 1. Therefore, the contribution of each CO to each PO is calculated. An example of PO2 calculation for CET2156 is given by $\frac{(92.31\times2+94.9\times2+98.41\times3+97.74\times3)}{2+2+3+3} = 96.29\%$.

2. Table 5 reflects all the percent POs calculated corresponding to each CO percentage for CET2156. Further Table 6 represents % of direct PO attainment for each subject in the academic year 2018-19.

Table 5. % PO attainment for CET2156 for the academic year 2018-2019.

CO	CA	MidSem	EndSem	PO1	PO2	PO3	PO4	Max CO Attainment	% CO Attainment
Marks	10	15	25					100	100
CO1	20	40	20	3	2	3	3	1300	92.31
CO2	30	40	20	3	2	3	3	1400	94.9
CO3	30	20	30	3	3	3	3	1350	98.41
CO4	20	0	30	3	3	3	3	950	97.74
% PO Attainment				95.84	96.29	95.84	95.84		

Table 6. Direct PO attainment for each course in the academic year 2018-2019.

CourseCode	% PO1 Attainment	% PO2 Attainment	% PO3 Attainment	% PO4 Attainment
CEP2351	100	100	100	100
CEP2354	100	100	100	100
CET2151	100	100	100	100
CET2152	100	100	100	100
CET2153	85.71	85.71	85.71	85.71
CET2154	91.33	91.23	91.33	91.23
CET2155	93.57	92.86	94.64	93.57
CET2156	95.84	96.29	95.84	95.84
CET2251	94.94	95.61	94.94	94.94
CET2252	95.02	94.76	95.02	94.7
HUP2101	79.44	79.44	79.44	79.44
Average %	**94.17**	**94.17**	**94.27**	**94.13**

C. Sample calculation for PO attainment (Indirect Assessment)

1. We carried out surveys from the students/alumni and employers for the indirect assessment (sample feedback forms in Figure 2 and 3). The survey questions were asked on the scale of 5 and then connected to POs for the calculation of PO attainment.

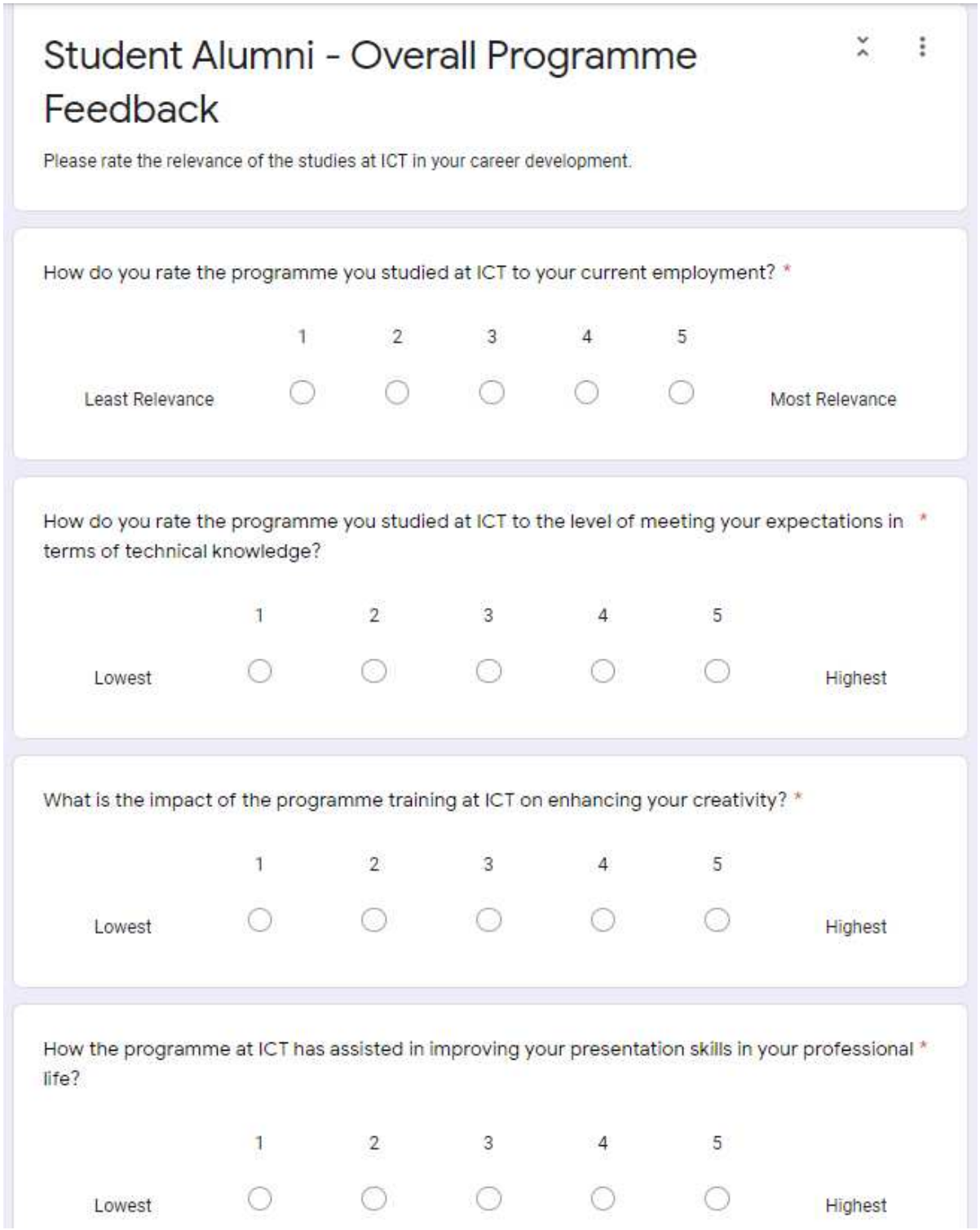


Figure 2. Sample student/alumni feedback form

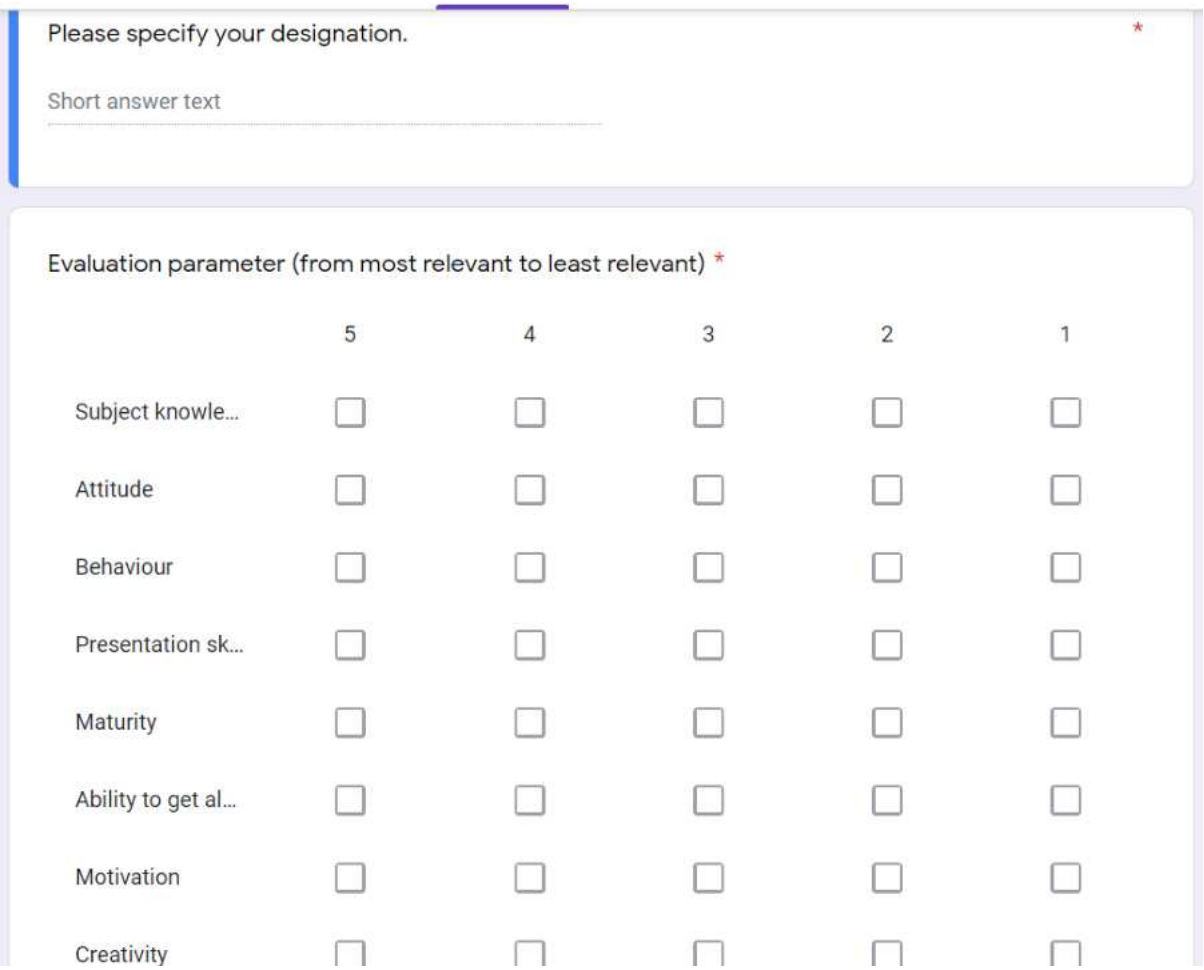


Figure 3. Sample employer feedback form

2. Table 7 shows the calculation of PO attainment from student/alumni feedback. We took the average of the scores obtained from number of students for each PO on the scale of 5 and then converted the value on the scale of 100 to obtain % attainment. For example, PO1 attainment is calculated as $(4+5+5+5+3+5+5+4+5+5+4+4+5+5)/14 = 4.71$. The average PO1 is then calculated as $(4.71+4.62)/2 = 4.67$. The % attainment is calculated as $\frac{4.67}{5} \times 100 = 93.33\%$.

3. The same procedure we followed for the indirect assessment through the employer feedback and is tabulated in Table 8.

Table 7. Indirect PO attainment through student/alumni feedback

Connected with PO	**Scores on the scale of 5**															**PO Attainment**		
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	Avg.	POs'	Avg.	**% Attainment**
PO1	4	5	5	5	3	5	5	4	5	5	4	4	5	5	4.71	PO1	4.67	**93.33**
PO1	4	5	5	5	4	5	5	4	5	4	4	4	5	5	4.62			
PO2	4	5	5	5	4	5	5	3	5	5	4	5	5	5	4.71	PO2	4.69	**93.81**
PO2	4	5	4	5	4	5	5	4	5	5	4	4	5	5	4.67			
PO3	4	5	3	5	4	5	5	4	5	4	4	4	4	4	4.38	PO3	4.48	**89.52**

PO3	4	5	4	4	4	5	5	4	5	5	4	4	4	4	4.57			
PO4	4	5	3	5	4	5	5	3	5	5	4	4	5	5	4.57	PO4	4.55	**90.95**
PO4	4	5	4	5	4	5	5	4	5	4	4	4	5	5	4.52			

Table 8. Indirect PO attainment through employer feedback

Connected with PO	**Scores on the scale of 5**															**PO Attainment**		
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	Avg.	POs'	Avg.	**% Attainment**
PO1	5	5	5	5	5	1	5	4	4	5	3	4	4	4	3.97	PO1	3.87	**77.33**
PO1	4	4	4	5	4	1	4	5	4	4	4	4	4	5	3.77			
PO2	5	4	4	4	5	1	4	5	4	5	4	4	4	5	3.9	PO2	3.9	**78**
PO2	5	4	5	4	5	3	4	3	4	5	3	4	4	5	3.9			
PO3	5	4	4	5	5	2	4	3	4	4	4	5	4	5	3.9	PO3	3.97	**79.33**
PO3	5	5	5	4	5	3	4	4	4	5	3	5	4	4	4.03			
PO4	5	3	3	4	5	2	4	4	3	5	3	5	3	5	3.63	PO4	3.83	**76.67**
PO4	5	5	4	5	5	2	3	5	4	4	4	5	4	5	4.03			

D. Sample calculations for overall PO attainment

1. For the overall PO calculations, we averaged the student/alumni and employer feedback attainment for each PO. For example, PO1 is averaged from student and employer feedback as (93.33+77.33)/2 = 85.33%. Then we assigned the indirect PO attainment values on the scale of 1 to 3 based on the % attainment scores. In this case, from Tables 7 and 8, the attainment value is 3 for each indirect PO.

% Attainment	Attainment assigned
64.99 or less	1
65 to 74.99	2
75 or more	3

2. For overall PO calculations, we converted all the % attainment values to the scale of 3 for each subject. Table 9 depicts the PO attainment for each subject in the academic year 2018-19. This table is another representation of Table 6.

Table 9. Direct PO attainment (on the scale of 3) for each course in the academic year 2018-2019.

CourseCode	**PO1 Attainment**	**PO2 Attainment**	**PO3 Attainment**	**PO4 Attainment**
CEP2351	3	3	3	3
CEP2354	3	3	3	3
CET2151	3	3	3	3
CET2152	3	3	3	3
CET2153	2.57	2.57	2.57	2.57
CET2154	2.74	2.74	2.74	2.74
CET2155	2.81	2.79	2.84	2.81
CET2156	2.88	2.89	2.88	2.88
CET2251	2.85	2.87	2.85	2.85

CET2252	2.85	2.84	2.85	2.84
HUP2101	2.38	2.38	2.38	2.38
Average PO	**2.83**	**2.83**	**2.83**	**2.82**

3. The overall PO attainment is then calculated as 0.8 × Direct attainment + 0.2 × Indirect attainment. For example, PO1 is calculated as 0.8×2.83+0.2×3=2.86. The following Table 10 shows the overall PO attainment for the academic year 2018-19. Further, Table 11 shows the breakdown of overall PO attainment for the academic year 2018-19.

Table 10. Overall PO attainment for the academic year 2018-19.

Assessment Type	**PO1 Attainment**	**PO2 Attainment**	**PO3 Attainment**	**PO4 Attainment**
Direct PO	2.83	2.83	2.83	2.82
Indirect PO	3	3	3	3
Overall PO Attainment	**2.864**	**2.864**	**2.864**	**2.856**

Table 11. Breakdown of overall PO attainment for the academic year 2018-19.

2018-19		**% Attainment**				**Attainment on the scale of 1 to 3**			
Assessment type	**CourseCode**	**PO1**	**PO2**	**PO3**	**PO4**	**PO1**	**PO2**	**PO3**	**PO4**
	CEP2351	100	100	100	100	3	3	3	3
	CEP2354	100	100	100	100	3	3	3	3
	CET2151	100	100	100	100	3	3	3	3
	CET2152	100	100	100	100	3	3	3	3
	CET2153	85.71	85.71	85.71	85.71	2.57	2.57	2.57	2.57
	CET2154	91.33	91.23	91.33	91.23	2.74	2.74	2.74	2.74
	CET2155	93.57	92.86	94.64	93.57	2.81	2.79	2.84	2.81
	CET2156	95.84	96.29	95.84	95.84	2.88	2.89	2.88	2.88
	CET2251	94.94	95.61	94.94	94.94	2.85	2.87	2.85	2.85
	CET2252	95.02	94.76	95.02	94.7	2.85	2.84	2.85	2.84
	HUP2101	79.44	79.44	79.44	79.44	2.38	2.38	2.38	2.38
Direct		**94.17**	**94.17**	**94.27**	**94.13**	**2.83**	**2.83**	**2.83**	**2.82**
	Student feedback	93.33	93.81	89.59	90.95				
	Employer feedback	77.33	78	79.33	76.67				
Indirect		**85.33**	**85.9**	**84.43**	**83.81**	**3**	**3**	**3**	**3**
Overall		**92.40**	**92.52**	**92.30**	**92.07**	**2.864**	**2.864**	**2.864**	**2.856**

4. Likewise, following the above-mentioned methodology in sections A, B, C and D, we calculated the overall average PO attainment for the academic years 2017-18, 2018-19, 2019-20 and 2020-21 which is presented in Table 12. The overall subject-wise attainment can be referred from Table 13.

Table 12. Overall average PO attainment

		Attainment on the scale of 1 to 3			
Assessment type	**Year**	**PO1**	**PO2**	**PO3**	**PO4**
	2017-18	2.67	2.67	2.67	2.67

	2018-19	2.83	2.83	2.83	2.82
	2019-20	2.66	2.65	2.65	2.65
	2020-21	2.67	2.67	2.67	2.67
Direct		**2.71**	**2.71**	**2.71**	**2.71**
Indirect		**3**	**3**	**3**	**3**
Overall		**2.77**	**2.77**	**2.77**	**2.77**

Table 13. Overall subject wise average PO attainment for years 2017, 2018, 2019 and 2020

		Attainment on the scale of 1 to 3			
Assessment type	**Course Code**	**PO1**	**PO2**	**PO3**	**PO4**
	CEP2351	2.79	2.79	2.79	2.79
	CEP2354	2.52	2.52	2.52	2.52
	CET2151	3	3	3	3
	CET2152	2.9	2.9	2.91	2.9
	CET2153	2.4	2.39	2.39	2.4
	CET2154	2.6	2.6	2.6	2.6
	CET2155	2.95	2.95	2.96	2.95
	CET2156	2.51	2.51	2.51	2.51
	CET2251	2.88	2.89	2.88	2.88
	CET2252	2.66	2.65	2.66	2.65
	CET2255	2.39	2.4	2.39	2.4
	CET2279	3	3	3	3
	HUP2101	2.51	2.51	2.51	2.51
	CET2287	2.82	2.82	2.82	2.82
	CET2266	2.49	2.42	2.4	2.46
Direct		**2.71**	**2.71**	**2.71**	**2.71**
Indirect		**3**	**3**	**3**	**3**
Overall		**2.77**	**2.77**	**2.77**	**2.77**

2.2.2 POs attainment levels with observations (40) Institute Marks (40)

We calculated the PO attainment following the assessment tools discussed in Section 2.2.1 and the observation are tabulated as shown in the tables below. From the obtained attainment data it is evident that, most of the POs are successfully achieved.

Comment on overall PO Attainment for the year 2017-18

PO	**Target Value**	**PO Attainment**	**Observation**
PO1: An ability to independently carry out research /investigation and development work to solve practical problems			
PO1	75-80%	88.75%	PO1 attainment is successful.
PO2: An ability to write and present a substantial technical report/document			
PO2	75-80%	88.1%	PO2 attainment is successful.
PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program			
PO3	75-80%	88.16%	PO3 attainment is successful.

PO4: Students should be able to apply as a researcher or entrepreneur the social and environmental awareness of chemical engineering and cope up with futuristic technologies which will lead chemical engineering towards sustainability.			
PO4	75-80%	87.67%	PO4 attainment is successful.

Comment on overall PO Attainment for the year 2018-19

PO	Target Value	PO Attainment	Observation
PO1: An ability to independently carry out research /investigation and development work to solve practical problems			
PO1	75-80%	92.40%	PO1 attainment is successful.
PO2: An ability to write and present a substantial technical report/document			
PO2	75-80%	92.52%	PO2 attainment is successful.
PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program			
PO3	75-80%	92.30%	PO3 attainment is successful.
PO4: Students should be able to apply as a researcher or entrepreneur the social and environmental awareness of chemical engineering and cope up with futuristic technologies which will lead chemical engineering towards sustainability.			
PO4	75-80%	92.07%	PO4 attainment is successful.

Comment on overall PO Attainment for the year 2019-20

PO	Target Value	PO Attainment	Observation
PO1: An ability to independently carry out research /investigation and development work to solve practical problems			
PO1	75-80%	87.96%	PO1 attainment is successful.
PO2: An ability to write and present a substantial technical report/document			
PO2	75-80%	86.98%	PO2 attainment is successful.
PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program			
PO3	75-80%	87.24%	PO3 attainment is successful.
PO4: Students should be able to apply as a researcher or entrepreneur the social and environmental awareness of chemical engineering and cope up with futuristic technologies which will lead chemical engineering towards sustainability.			
PO4	75-80%	86.57%	PO4 attainment is successful.

Comment on overall PO Attainment for the year 2020-21

PO	Target Value	PO Attainment	Observation
PO1: An ability to independently carry out research /investigation and development work to solve practical problems			
PO1	75-80%	88.34%	PO1 attainment is successful.
PO2: An ability to write and present a substantial technical report/document			

PO2	75-80%	88.17%	PO2 attainment is successful.
PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program			
PO3	75-80%	88.10%	PO3 attainment is successful.
PO4: Students should be able to apply as a researcher or entrepreneur the social and environmental awareness of chemical engineering and cope up with futuristic technologies which will lead chemical engineering towards sustainability.			
PO4	75-80%	88.20%	PO4 attainment is successful.

3 STUDENTS' PERFORMANCE (75) Institute Marks (72.40)

Table 3.1

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2020-21 (CAY)	2019-20 (CAYm1)	2018-19 (CAYm2)	2017-18 (CAYm3)	2016-17 (CAYm4)
Sanctioned intake of the program(N)	30	30	30	30	30
Total number of students admitted through GATE (N1)	30	29	29	30	30
Total number of students admitted through PG Entrance and others (N2)	00	01	01	00	00
Total number of students admitted in the programme (N1 + N2)	30	30	30	30	30

Table 3.2

Year of Entry	N1+N2 (as defined in Table 3.1)	Number of students who have successfully graduated	
		Year I	Year II
2020-21	**30**	**28**	
2019-20	**30**	**28**	
2018-19	**30**	**29**	**28**
2017-18	**30**	**30**	**30**
2016-17	**30**	**28**	**28**
2015-16	**30**	**27**	**27**

*NOTE: No of students who left the institute within first semester
2020-22: 2
2019-21: 2
2018-20: 1
2017-19: 0
2016-18: 2
2015-17: 3

3.1 Enrolment Ratio through GATE (Autogenerated) (20) Institute Marks (20)

	N (From Table 3.1)	N1 (From Table 3.1)	Enrollment Ratio [(N1/N)*100]
2020-21 (CAY)	30	30	100.00
2019-20 (CAYm1)	30	29	96.67

2018-19 (CAYm2)	30	29	96.67

Average [(ER1 + ER2 + ER3) / 3] : 97.78
Assessment : 20.00

3.2 Success Rate in the stipulated period of the program (Autogenerated) (20)

Institute Marks (19.40)

Item	Latest Year of Graduation, LYG (2018-19)	Latest Year of Graduation minus 1, LYGm1 (2017-18)	Latest Year of Graduation minus 2 LYGm2 (2016-17)
X Number of students admitted in first year of same batch	30.00	30.00	30.00
Y Number of students completing program in stipulated duration	29.00	30.00	28.00
Success Index [SI = Y / X]	0.97	1.00	0.93

Average SI [(SI1 + SI2 + SI3) / 3] : 0.97
Assessment [20 * Average SI] : 19.40

3.3 Placement, Higher Studies and Entrepreneurship (20)

Institute Marks (18)

Item	2020-21	2019-20 (P1)	2018-19 (P2)	2017-18 (P3)	2016-17
Total No of students admitted in first year(N)	**30**	**30**	**30**	**30**	**30**
No of students placed in the companies or government sector(X)	**24**	**27**	**27**	**24**	**20**
No. of students pursuing Ph.D. / JRF/ SRF(Y)	**1**	**1**	**0**	**2**	**4**
No of students turned entrepreneur in engineering/technology (Z)	**0**	**0**	**0**	**0**	**0**
Placement Index [(X+Y+Z)/N] :	**0.83**	**0.93**	**0.9**	**0.87**	**0.8**

Average Placement [(P1 + P2 + P3)/3] : 0.90
Assessment [20 * Average Placement] : 18.00
Program Name : Chemical Engg.
Assessment Year : 2019-20 (CAYm1)

Assessment Year: 2020-21 (CAYm0)

Sr. No	Student Name	Student Roll no	Employer Name	Appointment No
1	Purva Walia	19CHE215	Evonik	23.4.2021
2	S. Dhiraj	19CHE222	Galaxy Surfactants	18.8.2021

3	Abhishek Merchant	19CHE201	JSW One Platforms Limited	JSW/ONEPLATFOMS/APPT/81
4	Akash G. Thakare	19CHE202	RCF	Corp./HR/2021
5	Ankeeta Shriya	19CHE203	Technip	TGBS/TPINDIA/TE/2021-102
6	Chinmay Vilasrao Kalantre	19CHE205	Biocon	15.6.2021
7	Deepanshu Kumar Gaur	19CHE206	Higher Studies	NA
8	Dhiraj Sutar	19CHE207	Atotech	7.4.2021
9	Hatim Taherali Rangwala	19CHE208	Technip	TGBS/TPINDIA/TE/2021-103
10	Himanshu Jitendra Sanklecha	19CHE209	Biocon	NA
11	Komal Kishor Sao	19CHE211	Saint Gobain	8.7.2021
12	Kuldeep	12CHE212	ANM Technosol Pvt. Ltd.	17.7.2021
13	Pradnya Shankar Gosavi	19CHE214	DeccanChemicals	18.1.2021
14	Priyanuj Kakoty	19CHE217	DeccanChemicals	18.1.2021
15	Rahil Shah	19CHE218	RB	9.8.2021
16	Rajshri Rekchand Undirwade	19CHE219	Galaxy Surfactants Ltd.	26.7.2021
17	Tanmay Sharad Padwal	19CHE220	Galaxy Surfactants Ltd.	10.3.2021
18	Rohit Waman Umredkar	19CHE221	Biocon	BBIL/HR/LET_OFR/3958
19	Shubham Kumar	19CHE223	Honeywell	23.3.2021
20	Subhamita Das	19CHE225	Biocon	BBIL/HR/LET_OFR/894
21	Ulhas Natthu Rehpade	19CHE226	Biocon	NA
22	Anandkumar Yadav	19CHE228	Aker Solutions	8.9.2021
23	Yash Mane	19CHE229	DeccanChemicals	18.1.2021
24	Yogesh Madhao Gote	19CHE230	RCF	Corp./HR/2021
25	Voruganti Sindhuja	19CHE231	Technip	TGBS/TPINDIA/TE/2021-104

Assessment Year: 2019-20 (CAYm1)

Sr. No	**Student Name**	**Student Roll no**	**Employer Name**	**Appointment No**
1	Akash Gupta	18CHE201	Galaxy Surfactants Limited	14-09-2019
2	Akshay Prabhakar	18CHE202	Aker Solutions	01-10-2019

3	Apoorva Pandey	18CHE204	Worleyparsons	WP/OL/2019/1128/03
4	Avni Singh	18CHE205	Honeywell	27-09-2019
5	Ayush Mittal	18CHE206	Sailife	15-11-2019
6	Aniket Shankarrao Bonde	18CHE207	Thermax	05-11-2019
7	Debolina Deb	18CHE208	Technip India Limited	TGBS/TPINDIA/TE/2019-055
8	Brijesh Desai	18CHE209	Jayant Agro	
9	Gurdev Singh	18CHE210	Worleyparsons	WP/OL/2019/1128/04
10	Harshad Dattatray Awari	18CHE211	thyssenkrupp Industrial Solutions (India) Private Limited	20-02-2020
11	Jayashri Yadav Shahare	18CHE212	Biocon	24-03-2020
12	Satyanarayana Kodavatiganti	18CHE213	Sailife	15-11-2019
13	Ashish Arvindbhai Kundaliya	18CHE214	Tata consulting Engineers Ltd.	06-11-2019
14	Mahammadkhan Rustamkhan Pathan	18CHE215	Aker Solutions	01-10-2019
15	Mohit Chandrashekhar Jagtap	18CHE216	Galaxy Surfactants Limited	14-09-2019
16	Shaikh Mohsin Ahamad	18CHE217	Biocon	24-03-2020
17	Naman Kukreja	18CHE218	Worleyparsons	WP/OL/2019/1128/02
18	Narendran Sunildutt	18CHE219	NIVEA India Pvt. LTd.	13-10-2020
19	Raj Dilip Musale	18CHE220	LARSEN & TOUBRO LIMITED	NA
20	Rohit Maheshwari	18CHE221	Honeywell	27-09-2019
21	Saransh Mogha	18CHE223	LARSEN & TOUBRO LIMITED	NA
22	Shwet Sunny	18CHE224	thyssenkrupp Industrial Solutions (India) Private Limited	20-02-2020
23	Vijay Ashok Bhange	18CHE226	thyssenkrupp Industrial Solutions (India) Private Limited	20-02-2020
24	Vinaypriy Maroti Wane	18CHE227	Biocon	24-03-2020

25	Vipul Gupta	18CHE228	Toyo Engineering India Pvt Ltd.	15-01-2020
26	Viral Rahangdale	18CHE229	Thyssenkrupp Industrial Solutions (India) Private Limited	20-02-2020
27	Chhayendri Lokhande	18CHE230	Honeywell	27-09-2019
28	Rohit kousika	18CHE222	University of pennesste (Ph.D. in chemical Engineering)	NA

Assessment Year: 2018-19 (CAYm2)

Sr. No	Student Name	Student Roll no	Employer Name	Appointment No
1	Ajaykumar Rajendrakumar Varma	17CHE202	Dharamsi Morarji Chemical Co.Ltd	09-04-2019
2	Akash Patel	17CHE203	Aker Solutions	20-12-2018
3	Anjali Krishnan	17CHE204	Shell Technology Center Bangalore	05-07-2019
4	Chandrashekhar Adinath More	17CHE205	KBR	20-12-2018
5	Chirag Bhaskar Bhor	17CHE206	Technip	31-10-2018
6	Deepkumar Samirbhai Shah	17CHE207	SRF	08-10-2018
7	Digvijay Vasant Bagul	17CHE208	Laxmi Organics	15-07-2019
8	Dorothy Narjary	17CHE209	Honeywell	26-07-2019
9	Gurunath Epili	17CHE210	SRF	SRF/HR/OL/9530
10	Khushboo	17CHE211	Technip	31-10-2018
11	Lyangom Lepcha	17CHE212	Aker Solutions	20-12-2018
12	Mamta Nair	17CHE213	L & T	11-10-2018
13	Nikhil Vijay Shinde	17CHE215	Galaxy Surfactants Ltd.	27-09-2018
14	Purvesh Kore	17CHE216	Toyo	07-02-2019
15	Ravi Kumar	17CHE217	Biocon	16-01-2019
16	Robin Malhotra	17CHE218	Technip	31-10-2018
17	Rohit Gulia	17CHE219	Dharamsi Morarji Chemical Co.Ltd	09-04-2019
18	Sagar Gupta	17CHE220	SRF	SRF/HR/OL/9528
19	Shefalika Singh	17CHE221	Laxmi Organics	15-07-2019
20	Shivani Gupta	17CHE222	KBR	20-12-2018
21	Smruti Mahendra Thakur	17CHE223	Galaxy Surfactants Ltd.	27-09-2018

22	Sujith V S	17CHE224	KBR	20-12-2018
23	Viveka Kaur	17CHE227	Aditya Birla	18-01-2019
24	Vignesh Shanmugam	17CHE228	Technip	31-10-2018
25	Aakash Chakraborty	17CHE230	Saint Gobian	28-12-2018
26	Prajakta Jaipal Medhane	17CHE231	Honeywell	08-05-2019
27	Akash Rameshwar Kubade	17CHE232	Toyo	07-02-2019

Assessment Year: 2017-18 (CAYm3)

Sr. No	Student Name	Student Roll no	Employer Name	Appointment No
1	Aadil Nishubhai Bharucha	16CHE201	Honeywell	26-01-2018
2	Abhay Raina	16CHE202	AXENS	01-09-2018
3	Akshay Gajanan Gotmare	16CHE203	Agilent	IC-B Entry (Level)
4	Akshita Anand Mogaveera	16CHE204	Tata Consultancy Engineers Ltd	TCE/CORP/HR/8032/C18/081
5	Arvind Vinod Sikarwar	16CHE206	Yash Paper	26-12-2017
6	Govind Halawai	16CHE210	Biocon	BL/HR/LET-OFR/5023680850236811
7	Akshay Prabhakar Hatewar	16CHE212	Pfizer	02-05-2018
8	Kashish Vinod Tembhekar	16CHE213	Biocon	BL/HR/LET-OFR/5023783150237834
9	Nandini Chauhan	16CHE214	Technip	TGBS/TPINDIA/TE/2017-002
10	Prasad Popatrao Chaudhari	16CHE216	Tata Consultancy Engineers Ltd	05-02-2018
11	Prashanth Chinthapandu	16CHE217	Yash Paper	12-02-2018
12	Prayas Kulshreshtha	16CHE218	Tridiagonal	29-05-2018
13	Rahul Anil Walwatkar	16CHE219	Saint-Gobain	22-06-2018
14	Ranjani V	16CHE220	Jacobs	21-02-2018
15	Rinin Rajan	16CHE221	Honeywell	26-01-2018
16	Sanket Devidas Chafle	16CHE222	Pfizer	09-02-2018
17	Saurabh Muley	16CHE223	Technip	TGBS/TPINDIA/TE/2017-001
18	Shubham Kashyap	16CHE225	Honeywell	02-09-2018
19	Sudha Ramani	16CHE226	Technip	TGBS/TPINDIA/TE/2017-005

20	Sumedh Girish Devi	16CHE227	Galaxy Surfactants	13-09-2017
21	Susheel Shobhnath Yadav	16CHE228	Toyo	HCAD/HRD/2018-19/0149
22	Vaishali v	16CHE229	Galaxy Surfactants	13-09-2017
23	Vishal Vishnu Patil	16CHE230	Jay chemicals	19-10-2018
24	Nandita Saraf	16CHE215	IITB (Ph.D)	NA
25	Bhushan Prakash Bamane	16CHE207	IIM, Nagpur	NA
26	Govind Thombre	16CHE211	UPL	10-01-2020

3.4 Professional Activities (15) **Institute Marks (15)**

3.4.1 Student's participation in professional societies/chapters and organizing engineering events (5) **Institute Marks (5)**

1. Workshop cum training program on analytical instruments
2. Technical Event (Aspen Workshop) under Centre of Excellence in Process Intensification
3. Workshop on statistical analysis using R
4. ABLE 2017
5. AZeotropy, Chemical Engineering Association, IIT Bombay
6. International Workshop WFCFD (World Forum for Crystallization, Filtration, Granulation and Drying)
7. Modern Day Industrialist - Manzar
8. 1M Ideate at APC Rangotsav'18
9. VORTEX
10. Bombay Technologist
11. Exergy

VORTEX:

This prepares itself for pan-India involvement, with participation from across 70 collegesin 35 cities. In the previous academic year the separate Technical festivals received a total combined participation of around 6,000, and over 100 industrialists visit the institute during the festival. "VORTEX: The ChemFest" aims at surpassing the previous participation and pervading all the entities pertaining to the chemical diaspora.

Bombay Technologist:

The Bombay Technologist is the annual technical journal of Institute of Chemical Technology Mumbai. Fondly known as The BT the journal invites scientific research and review articles from students of all disciplines i.e. Chemical Engineering Chemical Technology and Pharmacy studying in the Institute. The BT aims to create awareness and encourages amongst the students regarding various aspects of technical-writing.

Conceptualized and initiated by students and Faculty, the Bombay Technologist has an awe-inspiring collection of archives which has been helping the students keep abreast with the

ongoing scientific developments. We aim to reach out to the students' academicians and the industry by web archiving of all the sixty-two (62) volumes of the BT.
Through seminars and workshops dedicated for a specific group of students BT inculcates and encourages the culture of technical writing and presentation. Articles are reviewed strictly by use of modern plagiarism software and by critical review of Professors and Researchers.
Exergy is a Annual Technical Event based on chemical engineering which attracts researchers and scientists.

3.4.2 Student's publications (10) — Institute Marks (10)

Sr No	Student Roll N.	Authors	Title	Year	Source title	Volume	Issue	Art. No.	Page start	Page end
1	15CHE2005	**Patil L.**, Gogate P.R.	Large scale emulsification of turmeric oil in skimmed milk using different cavitational reactors: A comparative analysis	**2018**	Chemical Engineering and Processing: Process Intensification	126			90	99
2	15CHE2005	**Patil L.**, Gogate P.R.	Ultrasound assisted synthesis of stable oil in milk emulsion: Study of operating parameters and scale-up aspects	**2018**	Ultrasonics Sonochemistry	40			135	146
3	16CHE220	Kokare M.B., **Ranjani V.**, Mathpati C.S.	Response surface optimization, kinetic study, and process design of n-butyl levulinate synthesis	**2018**	Chemical Engineering Research and Design	137			577	588
4	15CHE2031	Chaudhari S.M., **Gawal P.M.**, Sane P.K., Sontakke S.M., Nemade P.R.	Solar light-assisted photocatalytic degradation of methylene blue with Mo/TiO_2: a comparison with Cr- and Ni-doped TiO_2	**2018**	Research on Chemical Intermediates	44	5		3115	3134

5	15CHE2016	Gomes F., **Thakkar H.,** Lähde A., Verhaagen B., Pandit A.B., Fernández Rivas D.	Is reproducibility inside the bag? Special issue fundamentals and applications of sonochemistry ESS-15	**2018**	Ultrasonics Sonochemistry	40			163	174
6	16CHE229	Hendre N.V., **Venkatasubramani V.,** Farakte R.A., Patwardhan A.W.	Hydrodynamics and Mass Transfer Characteristics of Asymmetric Rotary Agitated Columns	**2018**	Industrial and Engineering Chemistry Research	57	5		1630	1644
7	15CHE2029	Gupta A.R., **Jalan A.P.,** Rathod V.K.	Solar energy as a process intensification tool for the biodiesel production from hempseed oil	**2018**	Energy Conversion and Management	171			126	132
8	16CHE225	**Kashyap S.S.**, Gogate P.R., Joshi S.M.	Ultrasound assisted intensified production of biodiesel from sustainable source as karanja oil using interesterification based on heterogeneous catalyst (Γ-alumina)	**2019**	Chemical Engineering and Processing - Process Intensification	136			11	16
9	16CHE225	**Kashyap S.S.**, Gogate P.R., Joshi S.M.	Ultrasound assisted synthesis of biodiesel from karanja oil by interesterification: Intensification studies and	**2019**	Ultrasonics Sonochemistry	50			36	45

			optimization using RSM							
10	16CHE218	Hanchate N., **Kulshreshtha P.**, Mathpati C.S.	Optimization, scale-up and cost estimation of dehydration of ethanol using temperature swing adsorption	**2019**	Journal of Environmental Chemical Engineering	7	2	102938		
11	15CE2016	Dastane G.G., **Thakkar H.,** Shah R., Perala S., Raut J., Pandit A.B.	Single and multiphase CFD simulations for designing cavitating venturi	**2019**	Chemical Engineering Research and Design	149			1	12
12	16CHE227	Mevada J., **Devi S.,** Pandit A.	Large scale microbial cell disruption using hydrodynamic cavitation: Energy saving options	**2019**	Biochemical Engineering Journal	143			151	160
13	16CHE223	Kulkarni K.S., **Ekhande S.B., Muley S**., Rajput S., Patwardhan A.V., Patwardhan A.W.	Synthesis and characterization of nanofiltration ceramic membranes using alumina doped with spent siliceous material from chemical industry	**2019**	Separation Science and Technology (Philadelphia)	54	9		1502	1511
14	18CHE223	Honmane B., Bhansali R., Deshpande T., Dhand A., **Mogha S.,** Mukherjee J., Ghosh D., Sarode G.,	Harnessing the osmotic energy of cane molasses by forward osmosis: process studies and implications for a sugar mill	**2020**	International Journal of Environmental Studies					

		Srivastava S., Dive A., Deshmukh D., Ghosh P.K.								
15	17CHE223	**Thakur S.**, Gogate P.R.	Synthesis of Pd/C catalyst using formaldehyde reduction method and application for ultrasound assisted transfer hydrogenation of corn oil	**2020**	Chemical Engineering and Processing - Process Intensification	152		107939		
16	16CHE230	**Patil V.V.**, Gogate P.R., Bhat A.P., Ghosh P.K.	Treatment of laundry wastewater containing residual surfactants using combined approaches based on ozone, catalyst and cavitation	**2020**	Separation and Purification Technology	239		116594		
17	18CHE226	Kulkarni H., **Bhange V.**, Lishma P.L., Mathpati C.S.	Application of artificial intelligence to predict flow assisted corrosion in nuclear/thermal power plant	**2020**	Indian Journal of Chemical Technology	27	5		418	423
18	17CHE215	Chavan A., Vitankar V., **Shinde N.**, Thorat B.	CFD simulation of solar grain dryer	**2020**	Drying Technology					
	17CHE228	Patil, H.,**Shanmugam, V.,** Marathe, K.	Studies in synthesis and modification of PES membrane and its application for removal of	**2020**	Indian Chemical Enginner					

			reactive black 5 dye							
19	18CHE218	**Kukreja N.,** Ghoderao P., Dalvi V.H., Narayan M.	Cubic equation of state as a quartic in disguise	**2021**	Fluid Phase Equilibria	531		112908		
20	17CHE218	Hanchate N., **Malhotra R.**, Mathpati C.S.	Design of experiments and analysis of dual fluidized bed gasifier for syngas production: Cold flow studies	**2021**	International Journal of Hydrogen Energy	46	6		4776	4787
21	16CHE211	Haramkar S.S., **Thombre G.N.**, Jadhav S.V., Thorat B.N.	The influence of particle(s) size, shape and distribution on cake filtration mechanics-a short review	**2021**	Comptes Rendus Chimie	24	2		255	265
22	19CHE225	**Das S.**, Bhat A.P., Gogate P.R.	Degradation of dyes using hydrodynamic cavitation: Process overview and cost estimation	**2021**	Journal of Water Process Engineering	42		102126		
23	19CHE207	**Sutar D. D.,** Jadhav S.V.	Life Cycle Assessment of Methanol Production by Natural Gas Route	**2021**	Materials Today: Proceedings					
24	18CHE209	**Desai B.**, Barodawala A., Dalvi V.H.	Efficient power generation along with thermal treatment of aqueous stream using low grade heat	**2021**	Energy	230		120712		
25	18CHE213	**Kodavatiganti S.**, Bhat A.P.,	Intensified degradation of Acid Violet 7	**2021**	Separation and	279		119673		

		Gogate P.R.	dye using ultrasound combined with hydrogen peroxide, Fenton, and persulfate		Purification Technology					
26	19CHE223	**Kumar S.,** Jadhav S.V., Thorat B.N.	Life Cycle Assessment of Tomato Drying in Heat Pump and Microwave Vacuum Dryers	**2021**	Materials Today: Proceedings					

Note 1: The corresponding Master of Chemical Engineering student is highlighted in **bold.**

Note 2: A publication year is considered while compiling this list. Hence a previous batch student may appear in the list**.**

4 FACULTY CONTRIBUTIONS (75)

Institute Marks (75)

Name	PAN No.	University Degree	Date of Receiving Highest Degree	Area of Specialization	Research Paper Publication	Ph. D. guidance	Ph.D. granted during assessment years	Current Designation	Date (Designated as Prof/Assoc. Prof.).	Initial Date of Joining	Association Type	Currently Associated with(Yes/No)	In case of NO, Date of Leaving	IS HOD?
Professor A. B. Pandit	AADPP3869K	ME/M. Tech and PhD	31-07-1984	Sono chemical processes, reactor design and process intensification	376	50	15	Professor	01-01-1996	01-01-1991	Regular	Yes		No
Professor V. G. Gaikar	AAAPG7380H	ME/M. Tech and PhD	18-12-1986	Intensification, Material Science	189	50	8	Professor	01-07-2002	17-07-1984	Regular	Yes		No
Professor A. W. Patwardhan	AEVPP8927N	ME/M. Tech and PhD	27-12-1999	Process intensification	126	26	12	Professor	01-01-2011	01-01-2008	Regular	Yes		No
Professor S. S. Bhagwat	AAIPB7360E	ME/M. Tech and PhD	22-12-1989	Interfacial science	79	39	8	Professor	18-11-2003	18-11-1991	Regular	Yes		No
Professor V. K. Rathod	AGHPR2864C	ME/M. Tech and PhD	12-02-2008	Biotechnology, Environmental engineering	175	27	12	Professor	21-07-2011	21-07-2008	Regular	Yes		Yes
Professor P. R. Gogate	AHNPG3328H	ME/M. Tech and PhD	28-12-2002	Process intensification	337	21	16	Professor	05-07-2018	03-07-2007	Regular	Yes		No
Dr. V. H. Dalvi	ADPPD2092K	ME/M. Tech and PhD	19-12-2009	Energy engineering	17	2		Assistant Professor		09-05-2011	Regular	Yes		No
Dr. P. R. Nemade	AMMPN6107H	ME/M. Tech and PhD	30-08-2008	Process intensification, Environmental engineering	17	4	4	Assistant Professor		01-08-2013	Regular	Yes		No
Professor P. D. Vaidya	AGBPV5853B	ME/M. Tech and PhD	04-01-2005	Separation, Reaction Engineering	100	24	19	Professor	12-02-2018	01-08-2007	Regular	Yes		No

Dr. C. S. Mathpati	ARIPM8977F	ME/M. Tech and PhD	10-04-2010	Computational fluid dynamics, Reactor design, Mathematical modeling & simulation	34	10	10	Associate Professor	18-05-2018	16-09-2008	Regular	Yes		No
Professor B. N. Thorat	ACSPT0358G	ME/M. Tech and PhD	23-02-2001	Process intensification	91	27	3	Professor	17-02-2006	17-02-2006	Regular	Yes		No
Dr. S. M. Sontakke	DNPRS3167P	ME/M. Tech and PhD	02-01-2012	Material Science, Environmental engineering			1	Assistant Professor		16-04-2012	Regular	No	13-07-2017	No
Dr. D. V. Pinjari	AOKPP0919B	ME/M. Tech and PhD	07-07-2012	Process intensification	85	4	2	Assistant Professor		03-04-2013	Regular	No	05-09-2018	No
Professor G. D. Yadav	AAAPY1188M	ME/M. Tech and PhD	13-06-1980	Green chemistry, Material science	447	101	19	Professor	01-10-1996	01-07-1980	Regular	No	29-11-2019	No
Dr. S. S. Jogwar	AYFPJ4439B	ME/M. Tech and PhD	09-05-2011	Process control				Assistant Professor		16-09-2013	Regular	No	20-12-2016	No
Professor L.K. Mannepally	AFYPM5257L	M.Sc. and PhD	01-01-1982	Catalysis, Materials, Process chemistry, Nanotechnology	354	40		Professor	02-12-2015	02-12-2015	Regular	Yes		No
Professor P. K. Ghosh	AERPG6341M	M.Sc. and PhD	24-01-1981	Applied chemistry, Sustainability	89	8		Professor	15-04-2015	15-04-2015	Regular	Yes		No
Dr. S. V. Jadhav	BFMPJ9477E	ME/M. Tech and PhD	03-03-2018	Separation, Nanotechnology, Process intensification	14	0		Assistant Professor		22-05-2018	Regular	Yes		No
Dr. K. V. Marathe	ABRPM9835H	ME/M. Tech and PhD	15-12-2020	Process	43	3	2	Associate Professor	02-01-2012	01-02-1992	Regular	Yes		No

				intensification, Environmental engineering										
Professor A. V. Patwardhan	ABWPP6169L	ME/M. Tech and PhD	13-07-1988	Membrane separation, Heterogeneous reaction, Green technology	122	13	5	Professor	18-12-2007	18-12-2007	Regular	Yes		No
Dr. R. D. Jain	AGUPJ7114Q	ME/M. Tech and PhD	05-10-2005	Biotechnology	73	5	3	Assistant Professor		01-01-2014	Regular	Yes		No
Dr. M. D. Yadav	ADCPY0618F	ME/M. Tech and PhD	19-03-2019	Nanotechnology	10	0		Assistant Professor		24-09-2019	Regular	Yes		No
Professor A. M. Lali	ABGPL4939A	ME/M. Tech and PhD	19-12-1989	Biotechnology	98	60	25	Professor	09-01-2002	09-01-2002	Regular	Yes		No
Professor D. D. Sarode	AALPS9158E	ME/M. Tech and PhD	15-02-2010	Civil Engineering	26	2	1	Professor	01-03-2014	12-06-1997	Regular	Yes		No
Professor V. R. Gaval	ACEPG8425H	ME/M. Tech and PhD	01-11-1991	Polymer composites	17	2	2	Professor	06-01-1992	06-01-1992	Regular	Yes		No
Dr. P. Goswami	AEAPG6881M	ME/M. Tech and PhD	28-05-2018	Electrical Engineering	33	12		Associate Professor	08-02-2017	06-06-1998	Regular	Yes		No
Shri. M. A. K. Kerawalla	AACPK9005D	M.E/M.Tech	29-09-1984	Electrical Engineering	18	0		Associate Professor	16-02-1987	16-02-1987	Regular	Yes		No
Dr. R. S. N. Sahai	AYMPS0648G	ME/M. Tech and PhD	06-02-2013	Polymer composites	14	5		Associate Professor	23-02-2013	17-10-1998	Regular	Yes		No
Professor S. P. Deshmukh	AACPD5094K	ME/M. Tech and PhD	13-10-2009	Renewable energy, Heat transfer, Sustainable plastic composites	57	7	6	Professor	02-01-2012	13-05-1997	Regular	Yes		No
Dr. Mohan Narayan	AETPN4769C	M.Sc. and PhD	10-11-1999	Statistical	26	1	1	Associate Professor	01-03-2006	01-03-2006	Regular	Yes		No

				mechanics of fluids										
Professor S. D. Samant	AANPS0205S	M.Sc. and PhD	10-09-1980	Synthetic organic chemistry	156	56	3	Professor	08-01-1982	08-01-1982	Regular	No	31-12-2019	No
Dr. Annamma Anil	AAGPO1117L	M.Sc. and PhD	30-04-2008	Biotechnology, Applied Chemistry	43	9	7	Associate Professor	27-01-2017	20-02-2009	Regular	Yes		No
Dr. Ramajanaki Iyer	AAPPI1695E	MBA & Ph.D	13-05-2017	Management, Organizational behaviour	0	0		Assistant Professor		01-01-2021	Contractual	Yes		No
Dr. Deepankar Biswas	AWNPB1247R	ME/M. Tech and PhD	02-09-2020	Solar thermal systems, CFD	0	0		Assistant Professor		09-01-2020	Contractual	Yes		No
V. S. Korpale	DONPK5161J	M.E/M.Tech	08-03-2014	Heat Transfer, CFD	0	0		Assistant Professor		01-01-2020	Contractual	Yes		No
Dr. Sanghamitra Chatterjee	ASJPC6510A	M.Sc. and PhD	13-11-2010	Organic electrochemistry	31	0		Assistant Professor		25-08-2014	Regular	Yes		No

4.1 Student-Faculty Ratio (SFR) (10)

Institute Marks (10)

Year	**2020-21**	**2019-20**	**2018-19**	**2017-18**
Total No of students in Department (UG) (2nd to 4th year)	275	275	275	275
Total No of students in Department (Masters) (1st and 2nd year)	60	60	60	60

Description	**CAY (2020-21)**	**CAYm1 (2019-20)**	**CAYm2 (2018-19)**
Total No. of Students in the Department(S)	285 **Sum total of all (UG+PG) students**	285 **Sum total of all (UG+PG) students**	285 **Sum total of all (UG+PG) students**
No. of Faculty in the Department(F)	25 **F1**	22 **F2**	23 **F3**

Description	CAY (2020-21)	CAYm1 (2019-20)	CAYm2 (2018-19)
Student Faculty Ratio(SFR)	11.40 SFR1=S1/F1	12.95 SFR2=S2/F2	12.39 SFR3=S3/F3
Average SFR	12.25 SFR=(SFR1+SFR2+SFR3)/3		

5.1.1. Provide the information about the regular and contractual faculty as per the format mentioned below:

	Total number of regular faculty in the department	Total number of contractual faculty in the department
CAY(2020-21)	23	2
CAYm1(2019-20)	22	0
CAYm2(2018-19)	23	0

4.2 Faculty competencies in the area of Program specialization (30) **Institute Marks (30)**

4.2.1 Faculty name and specialization for the program under consideration (10) **Institute Marks (10)**

Name of Faculty	Relevant Area of Specialization	
	2020-21	2019-20
Professor A.B.Pandit	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 Nano-materials Biotechnology: Protein modification, Cell disruption and Microbial fuel cell.	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.
Professor V.G.Gaikar	Renewable Energy Resources, Reactive Separation Processes, Molecular Simulation for Reactive Sorption and Metal Ion Complexation, Interfacial Science and	Renewable Energy Resources, Reactive Separation Processes, Molecular Simulation for Reactive Sorption and Metal Ion Complexation, Interfacial Science and Engineering and

	Engineering and Hydrotropy, Complex Fluid Behaviour, Synthesis of nanoparticles and development of applications, Process Intensification, Biofuels by pyrolysis, CO_2 conversion to liquid fuel	Hydrotropy, Complex Fluid Behaviour, Synthesis of nanoparticles and development of applications, Process Intensification, Biofuels by pyrolysis, CO_2 conversion to liquid fuel
Professor A.W.Patwardhan	Computational Fluid Dynamics, Transport Phenomena, Membrane Separation Processes, Liquid- Liquid Extraction	Transport Phenomena, Computational Fluid Dynamics, Membrane Separations, Liquid – Liquid extraction, Thermal Hydraulics
Professor S.S.Bhagwat	Interfacial Science and Engineering, Microemulsions, Energy and Exergy Engineering, Absorption Cycles, Utilization of low grade energy, applications of artificial neural network, Computer process simulation	Interfacial Science and Engineering, Microemulsions, Energy and Exergy Engineering, Absorption Cycles, Utilization of low grade energy, applications of artificial neural network, Computer process simulation
Professor V. K. Rathod	Separation Processes, Process Intensification, WasteWater Treatment, Enzyme Modification and Treatment, Bio-separation, Nuclear reprocessing, Extraction of natural ingredients, Nanoparticles preparation, Biodiesel Manufacturing, Enzymatic Catalyzed Reactions	Separation process, Extraction of Natural ingredients, Enzyme catalyzed reactions, Waste Treatment, Nuclear reprocessing, Separation of biomolecules, Enzyme Preparation and separation
Professor P.R.Gogate	Sonochemistry, Hydrodynamic Cavitation, Process Intensification, Water and Wastewater Treatment, Enzymatic Reactions, Polymer Chemistry, Advanced Oxidation Processes	Sonochemistry, Hydrodynamic Cavitation, Process Intensification, Water and Wastewater Treatment, Enzymatic Reactions, Polymer Chemistry, Advanced Oxidation Processes
Dr. V. H. Dalvi	Molecular Simulations, Process Simulations, Solar Thermal Systems, Statistical Thermodynamics, Anaerobic Digestion, Energy Engineering.	Molecular Simulations, Process Simulations, Solar Thermal Systems, Statistical Thermodynamics, Anaerobic Digestion, Energy Engineering.
Dr. P. R. Nemade	Membrane separation, Development of polymeric and graphene based materials for membranes, catalysts, and sensors applications, sustainable sanitation	Membrane separation, Development of polymeric and graphene based materials for membranes, catalysts, and sensors applications, sustainable sanitation

Professor P.D.Vaidya	Carbon dioxide capture, reforming reaction, hydrotreatment, wet air oxidation, hydrogenation	Bio-energy, carbon dioxide capture and recycling, wastewater treatment
Dr. C. S.Mathpati	Computational Fluid Dynamics, Multiphase Flow, Reactor Design, Interface Heat and Mass Transfer, High temperature corrosion analysis	Computational Fluid Dynamics, Multiphase Reactor Design, High temperature corrosion analysis
Professor B.N. Thorat	Drying Technology and Particle Handling, Process Development, Multiphase Reactors, Industrial Crystallization and Filtration, Food Processing	Drying Technology and Particle Handling, Process Development, Multiphase reactors, Industrial Crystallization and Filtration
Dr. S. M. Sontakke	Catalysis, Water treatment, Biodegradable polymers, Solar cells	Catalysis, Water treatment, Biodegradable polymers, Solar cells
Dr. D. V.Pinjari	Sustainable and Environmental Engineering, Process Intensification, Cavitation Engineering and Technology, Synthesis of Nanomaterials, Polymers, Sonochemistry, and Paints Technology	Sustainable and Environmental Engineering, Process Intensification, Cavitation Engineering and Technology, Synthesis of Nanomaterials, Polymers, Sonochemistry, and Paints Technology.
Professor G.D. Yadav	Green Chemistry and Technology, Catalytic Science and Engineering, Nanomaterials and nanocatalysis, Biotechnology, Energy Engineering.	Green Chemistry and Technology, Catalytic Science and Engineering, Nanomaterials and nanocatalysis, Biotechnology.
Dr. S. S.Jogwar	Simultaneous design and control of energy-integrated process systems	Simultaneous design and control of energy-integrated process systems
Professor L.K.Mannepally	Catalysis, Materials and Process Chemistry, Nanotechnology.	Catalysis Materials, Process chemistry, Nanotechnology.
Professor P.K. Ghosh	Salt and Marine Chemicals; Membrane-based processes; Green Chemistry, Renewable Energy, Chemical Technology; Analytical Studies	Salt and Marine Chemicals; Membrane-based processes; Green Chemistry, Renewable Energy, Chemical Technology; Analytical Studies
Dr. S. V.Jadhav	Water and Wastewater Treatment, Membrane-based Separation, Nanomaterials Synthesis and their Applications, Adsorption-based Separation, Waste	Water and Wastewater Treatment, Membrane-based Separation, Nanomaterials Synthesis and their Applications, Adsorptionbased Separation, Waste Valorization,

	Valorization, Petrochemicals, Chemical and Enzymatic Kinetics, Process Modeling and Simulation, Drying Technology, Life Cycle Assessment	Petrochemicals, Chemical and Enzymatic Kinetics, Process Modeling and Simulation, Drying Technology, Life Cycle Assessment
Dr. K. V.Marathe	Bio - Electrochemical Membrane Reactor, Sustainability Studies, Algae Water Separation, Membrane Fabrication and modification Studies, Hydrometallurgical Extraction, Wastewater treatment, Membrane separation, Corrosion, Metal composites, Development of new materials	Wastewater treatment, membrane separation, ground water treatment, membrane bioreactor, electrochemical membrane bioreactor, sustainability assessment, exergy analysis
Professor A.V.Patwardhan	Membrane separation, Green Technology, Bioprocess Technology, Heterogeneous reactions	Adsorption, Membrane separation, Green Technology, Bioprocess Technology, Heterogeneous reactions.
Dr. R. D. Jain	Biosimilar/Biologics Characterization, Biopharmaceutical/ Pharmaceutical, Continuous process for polymeric/metal nanoparticles synthesis, Product Development using Traditional, Microfluidics and 3D Printing Technology, Nanomedicine, Cell Culture engineering	Continuous process for polymeric/metal nanoparticles synthesis, Material-Protein Interactions, Characterization of proteins, biologics and biosimilars, Cell Culture engineering and 3D printing
Dr. M. D. Yadav	Chemical Reaction Engineering, Nanotechnology, Crystallization	Chemical Reaction Engineering, Nanotechnology, Crystallization
Professor A. M. Lali	Bioenergy, Biofuels and biomass to other chemicals, Purification of Proteins, nucleic acids and other Biomolecules, natural and synthetic APIs high value organic/inorganic chemicals,Continuous chromatography, Modeling and Adsorptive separations, Biocatalysis and Biotransformations, Bioreactor design, Mixing and dynamics of solid liquid fluidized bed, Dynamics of gas-solid circulating	Bioenergy, biofuels & biomass to other chemicals, purification of proteins, nucleic acids and other biomolecules, natural and synthetic APIs high value organic/inorganic chemicals, continuous chromatography, Modeling and adsorptive separations, biocatalysis and biotransformations, bioreactors design, mixing and dynamics of solid-liquid fluidized bed, dynamics of gas-solid circulating fluidized bed, process integration and intensification, process development characterization and scaleup.

	fluidized bed, Process integration and intensification, Process development, characterization and scale up.	
Prof. D.D. Sarode	Construction Chemicals, Formwork for R.C.C, Advance Concrete Technology, Anticorrosive coatings and inhibitors, Glass and Carbon fiber composites and Geotechnical Engineering, Risk Management	Concrete Technology, Construction Chemicals, Composite Materials, Geotechnical Engineering
Prof. V.R. Gaval	Polymer Composites, Injection mould design, Conversion of metal parts into plastic parts	Polymer Composites, Injection mould design, Conversion of metal parts into plastic parts
Dr. P.Goswami	Sustainable Energy, Power systems, MATLAB simulations	Sustainable Energy and Environment, Power systems MATLAB simulations
M. A.K. Kerawalla	Power Electronics applications in Power systems analysis	Power Electronics applications in Power systems analysis
Dr. R. S. N.Sahai	Polymer Composites, Nanocomposites and its application in Mechanical Engineering, Mould Design	Development of Polymer Composites
Professor S. P. Deshmukh	Renewable Energy, Heat transfer, Plastic composites	Renewable Energy, Heat transfer, Plastic composites
Dr. Mohan Narayan	Plastic composites, Polymeric additives, Engineering Materials, Energy Engineering, Solar Energy, Analysis of Plastics using CAD/ CAE, Renewable energy, Heat transfer.	Theoretical High Energy Physics, Molecular dynamics, Chemical Engineering Thermodynamics
Professor S.D. Samant	Mechanistic Organic Chemistry, New methods of Organic synthesis, Sonochemistry, microwave chemistry, Catalysis.	Mechanistic Organic Chemistry, New methods of Organic synthesis, Sonochemistry, microwave chemistry, Catalysis.
Dr. Annamma Anil	Extractive Biotransformation, Design & Engineering of enzymes, Selective Isolation & Capture of Natural Bioactive Molecules, Secondary Agriculture & its products, Process integration & intensification, Process development, characterization & scale up	Extractive Biotransformation, Design & Engineering of enzymes, Selective Isolation & Capture of Natural Bioactive Molecules, Secondary Agriculture & its products, Process integration & intensification, Process development, characterization & scale up

Dr. Ramajanaki Iyer	Management, organizational behaviour	Management, organizational behaviour
Dr. Deepankar Biswas	Design of Solar thermal systems, Computational Fluid Dynamics	Design of Solar thermal systems, Computational Fluid Dynamics
V. S. Korpale	Heat Transfer, Computational Fluid Dynamics, Plastic Product Design and Analysis	Heat Transfer, Computational Fluid Dynamics, Plastic Product Design and Analysis
Dr. Sanghamitra Chatterjee	Organic Electrochemistry, Biomedical applications of nanomaterial modified sensors, Materials science and Nanotechnology, Electrochemical sensing techniques for clinical diagnostics and environmental monitoring, Development of sensors for biomolecules, drugs and doping agents, Electrochemical catalysis, Biosensors and arrays.	Organic Electrochemistry, Biomedical applications of nanomaterial modified sensors, Materials science and Nanotechnology, Electrochemical sensing techniques for clinical diagnostics and environmental monitoring, Development of sensors for biomolecules, drugs and doping agents, Electrochemical catalysis, Biosensors and arrays

4.2.2 Faculty Research Publication (10) **Institute Marks (10)**

		Academic Research									
Sr. No.	**Name of Faculty**	**Number of quality publications in refereed/SCI Journals, citations, Books/Book Chapters etc.**					**Ph.D. awarded during the assessment period while working in the institute**				
		2020-21	**2019-20**	**2018-19**	**2017-18**	**2016-17**	**2020-21**	**2019-20**	**2018-19**	**2017-18**	**2016-17**
1	Professor A. B. Pandit	14	13	20	11	21	3	6	2	3	1
2	Professor V. G. Gaikar	1	1	8	8	5	3	0	3	0	2
3	Professor A. W. Patwardhan	2	7	13	7	14	4	2	2	2	2
4	Professor S. S. Bhagwat	5	6	1	5	7	0	2	3	2	1
5	Professor V. K. Rathod	23	29	23	25	25	1	0	6	3	2
6	Professor P. R. Gogate	38	26	32	27	24	4	4	3	3	2
7	Dr. V. H. Dalvi	7	1	2	3	5	0	0	0	0	0
8	Dr. P. R. Nemade	3	2	4	3	2	1	0	0	3	0
9	Professor P. D. Vaidya	5	9	9	11	8	0	2	4	8	5
10	Dr. C. S. Mathpati	5	8	4	8	8	4	3	2	0	1
11	Professor B. N. Thorat	12	7	2	0	2	1	1	1	0	0
12	Dr. S. M. Sontakke	2	1	1	4	7	0	0	0	1	0
13	Dr. D. V. Pinjari	5	3	7	12	10	1	0	0	1	0
14	Professor G. D. Yadav	22	18	28	26	18	2	2	6	6	3
15	Dr. S. S. Jogwar	1	2	3	3	3	0	0	0	0	0

16	Professor L.K. Mannepally	1	1	3	2	0	0	0	0	0	0
17	Professor P. K. Ghosh	2	1	5	2	3	0	0	0	0	0
18	Dr. S. V. Jadhav	2	0	0	1	2	0	0	0	0	0
19	Dr. K. V. Marathe	0	1	1	5	3	0	1	1	0	0
20	Professor A. V. Patwardhan	2	2	4	3	2	0	2	2	1	0
21	Dr. R. D. Jain	12	18	8	8	20	0	1	1	1	0
22	Dr. M. D. Yadav	1	0	0	0	0	0	0	0	0	0
23	Professor A. M. Lali	10	15	10	10	18	1	8	8	2	6
24	Professor D. D. Sarode	2	1	2	1	0	0	1	0	0	0
25	Professor V. R. Gaval	1	3	0	0	0	2	0	0	0	0
26	Dr. P. Goswami	0	0	1	2	2	0	0	0	0	0
27	Shri. M. A. K. Kerawalla	0	0	0	1	2	0	0	0	0	0
28	Dr. R. S. N. Sahai	2	1	0	0	0		0	0	0	0
29	Professor S. P. Deshmukh	3	6	3	2	4	3	0	3	0	0
30	Dr. Mohan Narayan	2	1	2	1	1		0	1	0	0
31	Professor S. D. Samant	0	1	0	3	3	0	0	1	1	1
32	Dr. Annamma Anil	2	1	2	0	1	2	1	2	0	2

33	Dr. Ramajanaki Iyer	0	0	0	0	0	0	0	0	0	0
34	Dr. Deepankar Biswas	1	0	0	0	0	0	0	0	0	0
35	V. S. Korpale	0	0	0	0	0	0	0	0	0	0
36	Dr. Sanghamitra Chatterjee	2	0	0	2	4	0	0	0	0	0

4.2.3 Faculty Development work (10) Institute Marks (10)

Faculty members of Higher Educational Institutions today have to perform a variety of tasks pertaining to diverse roles. In addition to instruction, Faculty members need to innovate and conduct research for their self-renewal, keep abreast with changes in technology, and develop expertise for effective implementation of curricula. They are also expected to provide services to the industry and community for understanding and contributing to the solution of real-life problems in industry. Another role relates to the shouldering of administrative responsibilities and co-operation with other Faculty, Heads-of-Departments and the Head of Institute. An effective performance appraisal system for Faculty is vital for optimizing the contribution of individual Faculty to institutional performance. Faculty members regular undergo subject training, pedagogical training and management training conducted by UGC, ASC, TEQIP, AICTE, DST-SERC and other agencies. Apart from the trainings, they are actively involved in online course designs, short term certificate courses and technological event managements. Participation of faculty members in the faculty development programs.

Name of Faculty	Title	Conducted /Participated in Symposia/Seminar/Conference /Workshop	Place
2019-20			
Dr. V. H. Dalvi	Fundamentals of Molecular Simulations	Seminar at Centre for Continuing Education, IIT Kanpur	Kanpur
Dr. V. H. Dalvi	Machine Learning with Business Applications	Workshop at DCAL, IIM Bangalore	Bangalore
Prof. A. V. Patwardhan	Python and Machine Learning	Workshop by TEQIP	ICT, Mumbai

Prof. P. R. Gogate	Improved wastewater treatment using hydrodynamic cavitation	Training	Lviv Polytechnic, Lviv, Ukraine
2018-19			
Prof. S.S. Bhagwat	National Institute of Educational Planning & Administration	NIEPA	University of Oxford
Prof. S.S. Bhagwat	International Conference on Energy and Environment	Keynote speaker at International Conference on Energy and Environment	VIT, Pune
Prof. S.S. Bhagwat	Interfacial Science & Engineering: Basics and Applications	Invited as speaker for Research seminar on Interfacial Science & Engineering: Basics and Applications	Ahmedabad University, Gujrat.
Prof. S.S. Bhagwat	Environment and Green Technology for Sustainable Development	Keynote speaker for National seminar on Environment and Green Technology for Sustainable Development	Pune
Prof. S.S. Bhagwat	Energy and Exergy Engineering	Delivered a lecture on "Energy and Exergy Engineering	KLES Science & Commerce College
Prof. S.S. Bhagwat	Importance of Sciences in Engineering	Invited to talk on Importance of Sciences in Engineering	Don Bosco Institute of Technology
Prof. P.K. Ghosh	Eye on Green Technology, International Conference on Green Methods for Separation, Purification and Nanomaterial Synthesis (GMSP&NS-2018)	Invited as Guest Speaker	Jain University, Bengaluru
Prof. P.K. Ghosh	Illustrations of Opportunities to Convert Waste into Value	ICC Seminar on Wealth from Waste	Ankleshwar, Gujarat
Prof. P.K. Ghosh	Discovery of Cozaar, Losartan Potassium Salt at DuPont	Conference on an Interdisciplinary Approach from Fundamental Sciences to Translational Medicine	St. Xavier's College, Mumbai,
Prof. P.K. Ghosh	How SMEs can partner and benefit from the expertise	Seminar on Technology options for sustainable growth of Indian chemical industry	UAA Ahmedabad

Prof. P.K. Ghosh	Practical applications of Forward Osmosis with eye on energy conservation	National Conference on Novel Chemical Systems for Therapeutic and Energy Applications (NCSTEA-2019)	Anand, Gujarat
Prof. P.K. Ghosh	Technology pull and technology push are both important	ChemProtech India / Chemspec India 2019	CSIR-CSMCRI, Bhavnagar
Prof. P.R. Gogate	Chemical Reaction Engineering	Training program for Field officers of Maharashtra Pollution Control Board	Maharashtra
Prof. P.R. Gogate	Process Calculations, Distillation & Extraction, Crystallization & Filtration	Invited Faculty in Refresher course on Chemical Engineering organized by Indian Chemical Council	Ranipet, Tamilnadu
Prof. P.R. Gogate	Hydrodynamic cavitation for wastewater treatment	Invited Lecture in School on Advanced Oxidation Processes	BITS, Goa,
Prof. P.R. Gogate	Cavitation Technologies for Wastewater treatment", Invited lecture organized by MITCOE	Invited lecture organized by MITCOE	Alandi, Pune
Prof. P.R. Gogate	Chemical Reaction Engineering	Invited Faculty in Refresher course on Chemical Engineering organized by Indian Chemical Council	Mumbai
Prof. P.R. Gogate	Process Intensification using Cavitational reactors	Invited lecturer	Kurukshetra University
Prof. P.R. Gogate	Process Calculations, Chemical Reaction Engineering, Distillation & Extraction, Crystallization & Filtration	Invited Faculty in Refresher course on Chemical Engineering organized by Indian Chemical Council	Southern Regional Center, Cuddalore, TN
Prof. P.R. Gogate	Sono-crystallization	Industrial training program on crystallization	Cipla, Mumbai
Dr. R.D. Jain	Continuous synthesis of trimethyl chitosan/palladiumnano particles as potential anti-cancer therapy	Presentation at 17th International Symposium of Controlled Release Society	The Lalit, Mumbai
Dr. R.D. Jain	Chitosan based coprocessed excipients for improved tableting	Seminar at Wadhwani Research Center for Bioengineering	IIT, Mumbai

Dr. R.D. Jain	Split and Recombine Micromixer based continuous Synthesis of Chitosan Nanoparticles	Oral Presentation at Microfluidics and Lab on a Chip conference, SELECTBIO	Mumbai
Dr.S.V. Jadhav	Enhancing Accountability and Responsiveness in Scientific Organisations	TEQUIP III	Osmania University, Hyderabad
Prof.A.M. Lali	2nd EU-India Conference on Advance Biofuels	Conference on Advance Biofuels" organized by Ministry of Petroleum & Natural Gas, Govt. of India & European Commission	New Delhi
Prof.A.M. Lali	Clean Energy "Development of Enzymes & Microbial Technologies for Clean Energy	ICGEB	New Delhi
Prof.A.M. Lali	Guest Lecturer	Toray India Forum Series	The Claridges, New Delhi
Prof.A.M. Lali	AIDA's National Technical Seminar	AIDA's National Technical Seminar	New Delhi
Prof.A.M. Lali	An Energy Science & Technology Agenda for India organized by Shell Technology	Workshop on Chemical Conversion of bio-feedstocks in the context of the energy transition	Bangalore
Prof.A.M. Lali	Refining & Petrochemicals Technology	Centre for High Technology Ministry of Petroleum & Natural Gas, Govt. of India	Mumbai
Prof.A.M. Lali	Recent innovations in algal biofuels and bio-energy technologies	Delivered a lecture & attended a workshop	Dehradun
Prof.A.M. Lali	DBT National Workshop	Keynote Speaker	Department of Biotechnology, Govt. of India, New Delhi
Prof.A.M. Lali	ACHEMA 2018	ACHEMA 2018	Frankfurt am Main, Germany
Prof.A.M. Lali	Ethanol Summit	Panelist for the Ethanol Summit of the Asia-Pacific	Minneapolis, Minnesota, USA
Prof.A.M. Lali	Challenge and opportunities in lignocellulosic Biorefining	3rd LBNet Conference	Cheshire, UK
Prof.A.M. Lali	National Technical Seminar	by AIDA	New Delhi

Prof.A.M. Lali	Guest speaker at A K Dorle Memorial lecture series III	Guest speaker at A K Dorle Memorial lecture series III	University Department of Pharmaceutical Sc. Nagpur University
Prof.A.M. Lali	Advanced Biofuels	EU-India Conference	University Department of Pharmaceutical Sc. Nagpur University
Prof. A.M. Lali	Mining marine by-products for functional molecules	Lecture by Ms. Aishwarya Mohan, Research Manager, Cape Breton University	Canada
Prof. A.M. Lali	Cyber Colloids: a small Irish company with a big interest in seaweed	Lecture by Dr. Sarah Hotchkiss, Project Manager Cybercolloids Ltd.	Ireland
Prof. A.M. Lali	Staged bioprocessing- Maximizing economic value and biomass utilization	Lecture by Dr. John Sewuster, Waypoint Business Solutions Inc	Canada
Prof. A.M. Lali	Overview of hand harvesting Ascophyllum nodosum from Ireland's pristine Atlantic waters to being a world leader in the marketplace	Lecture by Dr. Noreen Breathnach	Ireland
Prof. A.M. Lali	Exploring Solar Radiation Relations of Seaweeds Floating at Sea: A Tool to Counteract Ocean Warming?	Lecture by Prof. Ricardo Radulovich, Dept. of Biosystems Engineering, University of Costa Rica	Costa Rica
Prof. A.M. Lali	The Role of UKRI-GCRF Global Seaweed STAR in meeting the challenges of the Philippine Seaweed Industry	Lecture by Dr. Anicia Hurtado, Scientist-Consultant in Seaweed Tissue Culture and Aquaculture	Philippines
Prof. A.M. Lali	Computational Modelling in Synthetic Biology	Lecture by Prof. K.V. Venkatesh, Department of Chemical Engineering, IIT Bombay	IIT Mumbai
Prof. A.M. Lali	International and National Perspectives of Sustainability and CSR	Lecture by Mr. Bibhuti Pradhan, General Manager (CSR), Indian Oil Corporation Limited (IOC)	New Delhi
Prof. A.M. Lali	Engineering mammalian cell factories for production of recombinant proteins, vesicles and gene therapies	Lecture by Prof. Mark Smales, University of Kent	UK

Prof. L. K. Mannepalli	IZC-2019	Keynote lecture at IZC-2019	Perth, Australia
Dr. C.S. Mathpati	Computational Fluid Dynamics Of Heat transfer in Packed And Fluidized Bed Systems	National Conference on Fluid Mechanics and Fluid Power	MNNIT Allahabad
Dr. C.S. Mathpati	Application of Computational Fluid Dynamics	Workshop on Computational Fluid Dynamics and its application	VJTI, Mumbai
Dr. C.S. Mathpati	CFD modeling of a dual Fluidized Bed Gasifier	8th Global Conference on Global Warming	Doha, Qatar
Prof. A.B. Pandit	Sustainable Waste Management: Municipal Solid Waste and e-Waste	IGCS Winter School	IIT Madras
Prof. A.B. Pandit	Groundnut shell Biochar-Production, characterization, and study of its interactive mechanism with crop fertilizer	2nd International Conference on Bioresources, Energy, Environment & Materials Technology	Gangwon Province, South Korea
Prof. A.B. Pandit	A two stage treatment of alkyd resin wastewater: Hydrodynamic cavitation followed by Peroxane process in gas inducing reactor	DAE BRNS 8th Biennial Symposium on emerging trends in Separation Sciences and Technology	BITS-Pilani-Goa
Prof. A.B. Pandit	INAE DST initiative on Laboratory safety and hazardous waste management	Lecture at Indian Institutes of Science Education and Research (IISER)	Pune
Prof. A.B. Pandit	Process Intensification Strategies for Chemical Industry	ICT-UAA Silver Jubilee Seminar	Ahmadabad
Prof. A.B. Pandit	Intensification of intracellular enzyme recovery	Key note Speaker at 'ACES-2019'	IISER Bhopal
Prof. A.B. Pandit	National Opportunities for Chemical Engineers	Key note Lecture, CHEMIX 2019	VNIT Nagpur
Prof. A.B. Pandit	Laboratory Safe Practices and Waste Disposal in Academic and R & D Institutes	Invited Talk at 'INAE-DST'	Savitribai Phule Pune University, Pune
Prof. A.W. Patwardhan	CFD Modeling for Reactor Design	Symposium on Chemical Reaction Engineering	NCL, Pune
Prof. A.W. Patwardhan	Synthesis of boron doped carbon nanotubes using floating catalyst chemical vapor deposition	Second International Conference on Nano Science and Engineering Applications ICONSEA	JNTU-Hyderabad

Prof. A.W. Patwardhan	Synthesis of high aspect ratio graphene oxide sheets using one pot electrochemical exfoliation	Conference on Nano Science and Engineering Applications ICONSEA-2018	JNTU-Hyderabad
Prof. A.W. Patwardhan	Numerical Simulations of the Gas-Liquid two phase flow using population balance modelling in Vertical Pipe	16th Multiphase flow conference	Dresden, Germany
Prof. A.W. Patwardhan	Sensitivity Analysis for CFD Simulations of Randomly Arranged Packed Beds of Spheres	12th International Conference on Complex Fluids and Soft Matter	IIT-Roorkee
Prof. A.W. Patwardhan	Experimental and Computational Studies for Two Phase Flow Pressure Drop in Vertical Tube Boiling	7th International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP)	IIT-Bombay, Mumbai
Prof. A.W. Patwardhan	Direct Numerical Simulation for comparison of Flow Structures in Three-Dimensional Wake Flow	7th International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP)	IIT-Bombay, Mumbai
Prof. A.W. Patwardhan	New methodology for modeling pressure drop and thermal hydraulic characteristics in long vertical boiler tubes at high pressure	National Conference on Critical Heat Flux and Multiphase Flow	IIT-BHU, Varanasi
Prof. A.W. Patwardhan	Thermal Hydraulics Study of High-Pressure Flow Boiling in Vertical Tube	71th Annual Session of Indian Institute of Chemical Engineers, (CHEMCON-2018)	NIT-Jalandhar
Prof. A.W. Patwardhan	Residence Time Distribution Studies in Multi-stage Extraction Column	71th Annual Session of Indian Institute of Chemical Engineers, (CHEMCON-2018)	NIT-Jalandhar
Prof. A.W. Patwardhan	Comparison of the Turbulence Models for Flow Fields Prediction of the Jet Flow Decay	71th Annual Session of Indian Institute of Chemical Engineers, (CHEMCON-2018)	NIT-Jalandhar
Prof. A.W. Patwardhan	Mathematical Modeling of Tea Bag Infusion Kinetics.	71th Annual Session of Indian Institute of Chemical Engineers, (CHEMCON-2018)	NIT-Jalandhar
Prof. A.W. Patwardhan	Numerical Simulations of the Slug Flow for the Air-Water Two Phase Flow System in Vertical Pipe	71th Annual Session of Indian Institute of Chemical Engineers, (CHEMCON-2018)	NIT-Jalandhar
Prof. A.W. Patwardhan	Single step Electrochemical Exfoliation of Graphite: Synthesis, Optimization and Characterization.	71th Annual Session of Indian Institute of Chemical Engineers, (CHEMCON-2018).	NIT-Jalandhar
Prof. A.W. Patwardhan	Synthesis of boron doped carbon nanotubes and study of variation in boron concentration	71th Annual Session of Indian Institute of Chemical Engineers, (CHEMCON-2018	NIT-Jalandhar
Prof. A.W. Patwardhan	Hydrodynamics of asymmetric rotating agitated extractor: Investigation of drop size , holdup and mass transfer	71th Annual Session of Indian Institute of Chemical Engineers, (CHEMCON-2018	NIT-Jalandhar

Prof. A.W. Patwardhan	Direct Numerical Simulation for External and Internal Flows in Open FOAM	71th Annual Session of Indian Institute of Chemical Engineers, (CHEMCON-2018)	NIT-Jalandhar
Prof. A.W. Patwardhan	Mathematical Modeling of Tea Bag Infusion Kinetics.	2nd International Conference on Engineering Future Food, (EFF2019).	Bologna, Italy
Prof. A.W. Patwardhan	CFD PBM simulations of asymmetric rotating impeller column,	14th International Conference on Gas-Liquid and Gas-Liquid-Solid Reactor Engineering (GLS-14)	Guilin, China
Prof. A.W. Patwardhan	Direct Numerical Simulation (DNS) to Investigate the Effect of Schmidt Number on Mass Transfer through Packed Beds	14th International Conference on Gas-Liquid and Gas-Liquid-Solid Reactor Engineering (GLS-14)	Guilin, China
Prof. A.V. Patwardhan	Cleaning of polyamide nanofiltration membranes: Comparison between conventional and ultrasound-assisted technology	1st International Conference Materials & Environmental Science (ICMES)	Kolhapur, Maharashtra
Prof. A.V. Patwardhan	COD reduction of industrial effluent by polyamide nanofiltration membranes	Paper presented at 1st International Conference Materials & Environmental Science (ICMES)	Kolhapur, Maharashtra
Prof. A.V. Patwardhan	Safety Week	Safety Week Workshop	ICT Mumbai
Dr. P.D. Vaidya	Distillation & Absorption	11th International Conference on Distillation & Absorption	Florence
Dr. P.D. Vaidya	Hydrogen & Fuel Cell	7th International Hydrogen & Fuel Cell Conference (IHFC – 2018),	Jodhpur
Dr. P.D. Vaidya	Orientation to Chemical Safety and Risk Management	Sandia National Laboratory's Workshop	ICT, Mumbai.
Prof. B.N. Thorat	Mathematical Analysis of Solar Conduction Dryer using Reaction Engineering Approach	Nordic Baltic Drying Conference	Saint Petersburg, Russia
Prof. B.N. Thorat	New theories discerning drying kinetics	Nordic Baltic Drying Conference	Saint Petersburg, Russia
Prof. B.N. Thorat	Lecture on Filtration and Drying	13th International Workshop on Crystallization	ICT, Mumbai.
Prof. V.K. Rathod	Application of Enzyme for conversion of Biomass in to value added product	Keynote Lecture	Rowan University, USA
Prof. V.K. Rathod	Heat Transfer and its application in heat exchanger design	BPCL Training programme	Mumbai

Prof. V.K. Rathod	'Utilization of solid waste from Food Industry for value added products' and 'Utilization of liquid waste from Food Industry for value added products'	Keynote Lecture	North Maharashtra University Jalgaon
2017-18			
Prof. B.N. Thorat	CFD modelling and experimental study of Solar Conduction Dryer	Oral Presentation at Asia-Pacific Drying Conference	Wuxi, China
Prof. B.N. Thorat	Augmenting natural convection and conduction based solar dryer	21st International Drying Symposium 2018	Valencia, Spain
Prof. B.N. Thorat	12th International Workshopon Crystallization, Filtration and Drying. Theme: Drying and Granulation	International Workshop	ICT, Mumbai
Prof. A.M. Lali	ACHEMA 2018, World Forum	ACHEMA 2018, World Forum	Germany
Prof. A.M. Lali	Ethanol Summit of the Asian –Pacific organized by The U.S Grains Council and Sponsors Growth Energy and the Renewable Fuels	Guest panalist	Minneapolis, Minnesota, USA
Prof. A.M. Lali	Challenge and opportunities in Lignocellulosi Biorefinery	LBNet Conference	Shrigley Hall, Cheshire, UK
Prof. A.M. Lali	Cascade processes for integrated bio-refining of agricultural waste in India & Vietnam	Meeting of our International partners as a part of BBSRC	Aston University
Prof. A.M. Lali	AIDA'S	Technical Seminar & Exhibition	Technical Seminar & Exhibition
Prof. A.M. Lali	Dr. A.K. Dorle Memorial Lecture III	Guest speaker	Nagpur
Prof. A.M. Lali	Advance Biofuels	EU-India Conference	New Delhi
Prof. A.M. Lali	Bioenergy for the Future	Mission Innovation/International Energy Agency Event	Ottawa, Canada
Prof. A.M. Lali	Burning Fields, Biofuels and Bettering Farm Life	Conference on Biomass Innovation organized by Maastricht University	New Delhi

Prof. A.M. Lali	Lignocellulosic Ethanol	International Conference	Brussels, Belgium.
Prof. A.M. Lali	Biofuture Summit 17	Biofuture Summit 17	Paulo, Brazil
Prof. A.M. Lali	Bioenergy- Urja Utsav	Bioenergy- Urja Utsav Workshop	Pune
Prof. A.V. Patwardhan	Synthesis and characterization of ultrafiltration ceramic membranes using solid spent material doped in α-alumina from chemical industries	Recent Trends on Membranes and Separation Technology (RTMST-17) Workshop	CSMCRI, Bhavnagar
Prof. A.V. Patwardhan	Synthesis and characterization of ultra-filtration ceramic membranes using solid spent material doped in alpha alumina from chemical industries	DAE – BRNS Biennial "Symposium on Emerging Trends inSeparation Science and Technology (SESTEC –2018	BITS Pilani, K.K. Birla Goa
Prof. A.V. Patwardhan	Development of grafted resins and membranes (extractants) for precious metals	CHEMIX-18	VNIT, Nagpur
Prof. A.V. Patwardhan	Synthesis and characterization of ultra-filtration ceramic membranes using solid spent material doped in alpha alumina from chemical industries	DAE –BRNS Biennial Symposium on Emerging Trends	BITS Pilani, K.K. Birla Goa
Prof. A.V. Patwardhan	Application of ceramic membranes in treating laundry wastewater	Outstanding Young Chemical Engineers (OYCE)	Mumbai
Prof. A.W. Patwardhan	Controlling the carbon nanotubes type with processing parameters from floating catalyst chemical vapor deposition synthesis	International Conference on Nanotechnology	IIT Roorkee
Prof. A.W. Patwardhan	Synthesis of modified carbon nanotubes	International Conference on Nanotechnology	IIT Roorkee
Prof. A.W. Patwardhan	Flow Patterns, Flow Pattern Map And Void Fraction Measurement Of Air/Water Two Phase Flow In Vertical Pipe	NationalConference on Fluid Mechanics and Fluid Power	Amrita University, Kerala
Prof. A.W. Patwardhan	Design and Scale-up of Asymmetric Rotary Agitated Liquid – Liquid Extraction Columns, Eighth Biennial Symposium On EmergingTrends In Separation Science And Technology	SESTEC – 2018	BITS Goa

Prof. A.W. Patwardhan	Hydrodynamic Characteristics between Pulsed Disc and Doughnut Column and Asymmetric Rotating Impeller Column	Eighth Biennial Symposium On Emerging Trends In Separation Science And Technology, SESTEC – 2018	BITS Goa
Prof. A.W. Patwardhan	CFD-PBM Simulations of Asymmetric Rotating Impeller Column	Eighth Biennial Symposium On Emerging Trends In Separation Science AndTechnology, SESTEC – 2018	BITS Goa
Prof. A.W. Patwardhan	Synergistic Behavior of Tri-butyl Phosphate and Di-(2-ethylhexyl) Phosphoric Acid	Eighth Biennial Symposium On Emerging Trends In Separation Science And Technology, SESTEC – 2018	BITS Goa
Prof. A.W. Patwardhan	Recovery of Lithium from Sea Water Bitterns byLiquid – Liquid Extraction	Eighth Biennial Symposium On Emerging Trends In Separation Science And Technology, SESTEC – 2018	BITS Goa
Prof. P. R. Gogate	Hydrodynamic cavitation for Wastewater treatment	Invited for presentation	Saudi Arabia
Prof. P. R. Gogate	Intensified Hybrid oxidation processes based on hydrodynamic cavitation for treatment of emerging contaminants	Invited Lecture at AOSS-3	SRM University
Prof. P. R. Gogate	Cavitational Reactors	Annual Convention of Marathi Vidnyan Parishad	Kudal, Maharashtra
Prof. P. R. Gogate	Intensification of Chemical processing applications using Cavitational Reactors	Invited Lecturer	PREC, Loni
Prof. P. R. Gogate	Intensified Production of Biofuels from Sustainable Raw Materials using Ultrasonic Reactors	Invited Lecture at the Indo- Japan Bilateral Symposium	IIT-Guwahati
Prof. P. R. Gogate	Crystallization using ultrasonic irradiation	Invited lecture at WFCFD	ICT Mumbai
Prof. P. R. Gogate	Process Intensification of Chemical Processing applications using cavitational reactors	Tantr Avishkar 2K18,	TSEC, Mumbai
Prof. K.V. Marathe	Mechanical Behavior of Materials	TEQIP	ICT, Mumbai
Prof. P.D. Vaidya	6th International Conference on Hydrogen and Fuel Cells	6th International Conference on Hydrogen and Fuel Cells	Pune`

Prof. P.D. Vaidya	Orientation to Chemical Security Risk Management	3-Day Seminar	SANDIA National Laboratories (USA)
Prof. C.S. Mathapati	National Conference on Fluid Mechanics and Fluid Power	National Conference on Fluid Mechanics and FluidPower	MNNIT Allahabad
Dr. R.D. Jain	Skinon- a-chip: An alternativeto- animal, 3D in-vitro skin model for preclinical and biomedical applications	Microfluidics and Lab, SELECTBIO	Mumbai
Prof. L. K. Mannepalli	RACI National Centenary Conference 2017	RACI National Centenary Conference CHEMECA-2017	Melbourne, Australia
Prof. L. K. Mannepalli	NENCS	Guest speaker	Tokyo, Japan
Prof. L. K. Mannepalli	ACS Asia-Pacific International Chapters Conference	Invited speaker	Jeju, South Korea
Prof . J.B. Joshi	12th International conference on Gas, liquid and solid (GLS-12),	Invited speaker	Brussels, Belgium
2016-17			
Prof A. B. Pandit	15th Meeting of the European Society of Sonochemistry-ESS15	15th Meeting of the European Society of Sonochemistry-ESS15	Istanbul, Turkey
Prof. A. V. Patwardhan	Transport of Ruthenium through Supported Liquid Membrane	International Conference on Membrane Technology and its Applications (MEMSEP 2017),	Tiruchirappalli.
Prof. A. V. Patwardhan	Introduction to Research Approach	4th INSPIRE Science Camp of DST (“Innovation in Science Pursuit for Inspired Research)	G. N. Sapkal College of Engineering, Nashik
Prof. A. V. Patwardhan	Orientation to Chemical Security Risk Management	The United States Department of State	United States
Prof. A. V. Patwardhan	Materials Characterization	Society of Industrial Chemistry and Chemistry Division, BARC	HBNI Complex, BARC, Mumbai
Prof. A. V. Patwardhan	Advanced Treatment and Recycling of Urban and Industrial Wastewater,	School of Water resources	IIT Kharagpur

Prof. A. V. Patwardhan	Microbial colorants / pigments	Business proposal presented at AXISMOVES-2017	Axis Bank, at New Delhi
Prof. A. V. Patwardhan	Microbial colorants/ pigments	Business proposal presented at IIGP-FICCI DST-LOCKHEED Programme	Stanford Graduate School of Business, Texas
Prof. A. W. Patwardhan	Application of Numerical Heat Transfer to Industrial Problems	CFD Modeling of High Pressure Sub-cooled Boiling Flow in Vertical Tubes	BARC, Mumba
Dr. R. D. Jain	Synthesis, Characterization and Cellular Imaging	Hands on Training Workshop on Nano-Drug Delivery System	ICT, Mumbai
Dr. K.V. Marathe	Exergy analysis of Micellar Enhanced Ultra-Filtration	SESTEC	BARC, Mumbai
Dr. R. D. Jain	International Symposium of the Controlled Release Society-Indian Chapter	International Symposium of the Controlled Release Society-Indian Chapter	ICT, Mumbai
Prof. C.S. Mathpati	Computational Fluid Dynamics Of Heat transfer in Packed And Fluidized Bed Systems.	6th International and 43rd National Conference on Fluid Mechanics and Fluid Power	MNNIT Allahabad
Prof. C.S. Mathpati	workshop for process intensification using Aspen Plus	workshop for process intensification using Aspen Plus	COEP, Pune
Dr. D. V. Pinjari	Cavitation Induced Physico-chemical Transformation for Synthesysing Materials at Nano-Scale	Outstanding Young Chemical Engineers (OYCE) Competition	Mumbai Regional Centre
Dr. D. V. Pinjari	Cavitation: a Novel Approach for Process Intensification, in National Conference	National Conference On Recent Trends In Chemical Engineering And Technology (REACT)	Laxminarayan Institute Of Technology (LIT), Nagpur
Dr. D. V. Pinjari	Acoustic Cavitation as a Novel Approach for Formulation of Paraffin Wax Nanoemulsions, in NANO INDIA	Workshop by Centre for Nanotechnology & Advanced Biomaterials (CeNTAB),	SASTRA University, Thanjavur
Dr. D. V. Pinjari	Doping of N-Octyl Phosphonic acid species on the surface of ultrasonically synthesized Zinc phosphate nano-pigment and its anticorrosive performance in carrier resin at various concentrations	Workshop by Centre for Nanotechnology & Advanced Biomaterials (CeNTAB),	SASTRA University, Thanjavur

Prof. P. K. Gosh	Simple Illustrations of the Interplay between Science and Innovation	National Science Day conference	NCL, Pune
Prof. P. K. Gosh	Tapping into the potential of sunshine, wasteland and long coastline of India for renewable energy	National Technology Day conference	IIP, Dehradun
Prof. P. K. Gosh	Innovations around membranes, membrane-based devices and newer application areas	National Conference on Recent Trends on Membranes & Separations Technology (RTMST-2017)	CSIR-CSMCRI, Bhavnagar
Prof. P. R. Gogate	Intensification of Chemical and Physical Processing using Cavitational reactors	Guest lecturer	KK Wagh College of Engineering, Nashik
Prof. P.R. Gogate	Intensified Delignification and Enzymatic Hydrolysis of Lignocellulosic Biomass with an Objective of Enhancing Biofuel Production	Intensified Delignification and Enzymatic Hydrolysis of Lignocellulosic Biomass with an Objective of Enhancing Biofuel Production	Bogazici University, Istanbul, Turkey
Prof. P.R. Gogate	Process Intensification using Cavitational Reactors and enzymes	Invited lecture at Faculty of Engineering	Minho, Portugal
Prof. P.R. Gogate	Intensification of Chemical processing applications using Cavitational Reactors	Invited lecture at Faculty of Engineering	University of Porto, Portugal
Prof. P.R. Gogate	Intensification of Chemical processing applications using Cavitational Reactors	Invited lecture at National workshop	AISSMS College of Engineering
Prof. P.R. Gogate	Improved crystallization using ultrasonic irradiation	WFCFD workshop	ICT Mumbai
Prof. P.R. Gogate	Improvements in wastewater treatment based on oxidation processes	Indo-German conference	Pune,
Prof. P.R. Gogate	Chemical Reaction Engineering	Refresher course on Chemical Engineering organized by Indian Chemical Council	Mumbai
Prof. P.R. Gogate	Improved wastewater treatment using advanced oxidation processes	Seminar on Solution based awareness on air and water quality	Tarapur MIDC
Prof.B. N. Thorat	Effect of 410 NM Light Emitting Diodes on the Native Microfrora and Dehydration of Selected Fresh Produce	20th International Drying Symposium (IDS 2016)	Gifu, Japan
Prof.B. N. Thorat	Biosensors, Bio-monitoring & Bio-inspired Journey	Environmental Researcher's Meet 2017	Gandhinagar

Prof.B. N. Thorat	Voice for BT	Guest lecturer	D Y Patil Institute
Prof.B. N. Thorat	Maharashtra State Level UCMAS ABACUS and Mental Arithmetic Competition	Chief guest	Prof. B.N. Vaidya Auditorium at Dadar
Prof.B. N. Thorat	Connect to Catalyze	Novozymes South Asia Pvt. Ltd	Novozymes South Asia Pvt. Ltd
Prof. P.D. Vaidya	PETROTECH 2016	PETROTECH 2016	New Delhi
Prof. P.D. Vaidya	How to overcome challenges in hydrogen production from steam reforming of biomass surrogates	Sustainable Development for Energy and Environment Workshop (ICSDEE-2017)	NCL, Pune

Faculty Achievements:

Faculty name	Achievement	Year
Prof. S. S. Bhagwat.	Distinguished Alumnus Award, ICT	2016
Prof. S. S. Bhagwat.	INSA Best Teacher Award' by Indian National Science Academy	2016
Prof. P.R.Gogate	Maharashtra State National Award for Outstanding Research Work in Engineering & Technology of the Indian Society of Technical Education	2016
Prof. V.G. Gaikar	'UAA Distinguished Alumnus Award in (Academics)' by the UDCT Alumnus Association (UAA).	2016
Prof. D. V. Pinjari	INAE Young Engineer Award by the Indian National Academy of Engineering (INAE).	2016
Prof. P. D. Vaidya	Bioenergy - Awards for Cutting Edge Research (B- ACER) Fellowship Program 2017 supported by the Department of Biotechnology, Govt. of India, and the Indo-U.S. Science and Technology Forum (IUSSTF)	2017
Prof. A. W. Patwardhan	Professor M.M. Sharma Science and Technology Award	2017
Prof. A.M. Lali	Eminent Scientist Award by KG Foundation, Coimbatore	2017
Prof. G. D. Yadav	Loknete Sadashivrao Mandlik Smriti Puraskar by Sadashivrao Mandlik Sugar Factory, Kolhapur	2017
Prof. P. R. Gogate	Prof. M M Sharma award for Science and Technology given by Marathi Vidnyan Parishad	2017

Prof. L.K.Mannepally	Dr. Mary Curie Memorial Award by APSC-2017.	2017
Prof. B. N. Thorat	Gunther Oertel Startup Innovation Award for Microbutor Innovation, Covestro	2017
Prof. P. K. Gosh	Lifetime Achievement Award, Indian Chemical Council	2017
Prof. P. K. Gosh	Lifetime Achievement Award, Indian Desalination Association	2017
Prof. P.R.Gogate	Most Outstanding Faculty Research Award in the Chemical Engineering Discipline, Careers 360	2018
Prof. A. B. Pandit	DST-Lockheed Martin-Tata Trusts, India Innovation Growth Programme (IIGP) 2.0 Awards	2018
Prof. V. G. Gaikar	Dr. G. M. Nabar Memorial Award	2018
Prof. P.R.Gogate	Outstanding Professor Award given by Indian Specialty Chemicals Manufacturing Association	2018
Prof. P.R.Gogate	A.V. Rama Rao award by Indian Institute of Chemical Engineers	2018
Prof. P.R.Gogate	Rajib Goyal Prize	2018
Prof. A. B. Pandit	G. M. Marve Prize for Most Research-Oriented Group from Chemical Engineering	2018
Prof. A. B. Pandit	'Best Oral Presentation Award' at 'International Conference on Desalination organized by Indian Desalination Association & NIT Trichi	2018
Prof. A. B. Pandit	C-Zero Challenge (Insulating Ceramics), IIT Madras	2018
Prof. A. B. Pandit	Best Oral Presentation Award' at 3rd National Seminar on Advanced Oxidation Processes organized by SECAS	2018
Prof. A. B. Pandit	Best Papyrus Oral Presentation Award	2018
Dr.C.S.Mathpati	2017 Class of Influential Researchers of Ind. Eng. Chem. Res	2018
Prof. P.R.Gogate	Citations of Prof. Parag Gogate crossed 15000	2018
Prof. L.K.Mannepally	Fellow of TWAS in 2017, swearing in ceremony happened in Nov 2018	2018
Prof. V.K.Rathod	IIChE's Hindustan Lever Biennial award for the most outstanding Chemical Engineer under the age of 45	2018
Prof. P.R.Gogate	lSCMA Award for an outstanding professor at ICT	2018
Prof. P.R.Gogate	Rajib Goyal Prize in Applied Science for 2016-2017 from Kurukshetra University	2019
Prof. A. B. Pandit	Arohan Social Innovation Award- Gold Category, INFOSYS	2019
Prof. A. B. Pandit	CHEMTECH Leadership and Excellence Award Outstanding Achievement- R&D Excellence	2019
Prof. A. B. Pandit	Book "Drinking Water Treatment for Developing Countries", Published by RSC	2019

Prof. L.K.Mannepally	Goyal Award, Applied Sciences, Kurukshetra University	2019
Prof. V. G. Gaikar	'Eminent Engineering Personality the year' by the Assam State Centre of the Institution of Engineers (INE) in their 35th National Convention of Chemical Engineers	2019
Dr.C.S.Mathpati	Dr. M. Visvesvaraya Award of Marathi Vidnyan Parishad for Excellence in Research Relevant and Beneficial to Society.	2019
Prof. L.K.Mannepally	Most coveted ICC D. M. Trivedi Lifetime Achievement Award for the year 2018	2019
Prof. P.R.Gogate	Fellow of Indian National Academy of Engineering	2019
Prof. V.K.Rathod	Prof. Man Mohan Sharma Award for Science and Technology of Marathi Vidnyan Parishad	2019
Prof. S. S. Bhagwat	UAA-Distinguished Alumnus award in the Academics category for the year 2019	2019
Prof. P.D.Vaidya	Fellow of Maharashtra Academy of Sciences	2019
Prof. V.K.Rathod	ISCMA Award for an outstanding Professor of ICT	2020
Prof. P.R.Gogate	FY2020 JSPS Invitational Fellowships for Research in Japan	2020
Prof. P.R.Gogate	Mid career award of UGC.	2020
Dr.R.A. Mashelkar	Top 2% of the world research scientists - The Standford University through @ PLOS Biology Journal, announced faculty of ICT (superannuated as well as ongoing).	2020
Prof. J.B. Joshi	Top 2% of the world research scientists - The Standford University through @ PLOS Biology Journal, announced faculty of ICT (superannuated as well as ongoing).	2020
Prof. G.D. Yadav	Top 2% of the world research scientists - The Standford University through @ PLOS Biology Journal, announced faculty of ICT (superannuated as well as ongoing).	2020
Prof. A.B. Pandit	Top 2% of the world research scientists - The Standford University through @ PLOS Biology Journal, announced faculty of ICT (superannuated as well as ongoing).	2020
Prof. V.G. Pangarkar	Top 2% of the world research scientists - The Standford University through @ PLOS Biology Journal, announced faculty of ICT (superannuated as well as ongoing).	2020
Prof. L.K.Mannepally	Top 2% of the world research scientists - The Standford University through @ PLOS Biology Journal, announced faculty of ICT (superannuated as well as ongoing).	2020

Prof. A.W.Patwardhan	Top 2% of the world research scientists - The Standford University through @ PLOS Biology Journal, announced faculty of ICT (superannuated as well as ongoing).	2020
Prof. P.R.Gogate	Top 2% of the world research scientists - The Standford University through @ PLOS Biology Journal, announced faculty of ICT (superannuated as well as ongoing).	2020
Prof. A.B. Pandit	Vice President of the Indian National Academy of Engineering.	2020
Prof. P.R.Gogate	Dr. Naresh J. Suchak Innovation Award	2020
Dr. R. D. Jain	BIRAC Innovator Award	2021
Prof. P.R.Gogate	Dr K Anji Reddy Innovator of the Year Award of IIChE	2021
Prof. G.D. Yadav	INAE, Professor Jai Krishna Memorial Award	2021
Dr. V.H. Dalvi	AICTE- Visvesvaraya Best Teacher Award	2021

Faculty Recognitions & Memberships:

Faculty Name	Recognitions & Membership
Prof. S. S. Bhagwat	• Indian Institute of Chemical Engineers - Life Member and Past Chairman of Mumbai Regional Center. • Oil Technologists Association of India - Life Member. • Society for Industrial Chemistry - Life Member. • Indian Society for Surface Science and Technology - Life Member, Hon Secy, Western India. • Maharashtra Academy of Sciences - Fellow (2008) • Industrial and Engineering Chemistry, American Chemical Society - Former Member,Editorial Advisory Board. • Journal of Surface Science and Technology - Member, Editorial Board. • Expert Member –NBA committee. • Member – RRC, University of Mumbai. • Member - Journal of Surface Science and technology.
Dr. V. H. Dalvi	• Membership of Editorial Boards with name of journal and agency.
Prof. V. G. Gaikar	• Fellow, Indian National Academy of Engineering. • Bharat Petroleum Distinguished Professor of Chemical Engineering (from 2nd March 2019). • Fellow, Maharashtra Academy of Sciences.

	• Life Member, Indian Institute of Chemical Engineers. • Life Member, Indian Society for Surface Science and Technology. • Fellow Member, Oil Technologists Association of India. • Life Member, Asian and Mid-East Institute of Chemists. • Chairman, Wester Region, AICTE(2017). • Member, Western Region Board of Apprenticeship and Training(2017). • Chairman, Expert Committee, Research, Innovation and Technology Transfer, RUSA-SPD, Maharashtra(2016). • Member, RUSA Council, Maharashtra State (2017-19). • Member, Sectional Committee (Chem Engg), Indian National Academy of Engineering (INAE) (2015-2018), New Delhi. • Member, TASK Force, Bioenergy Sciences, Department of Biotechnology, Ministry of Science and Technology, GoI.(2014-2018). • Member, Working group-Innovation Council, Maharashtra State(2015-2018). • Member, National Program on Carbon Capture, Department of Science and Technology, GoI(2016-2019). • Member, Advisory Committee, UGC-CAS program in Chemical Engineering, IISc(2019).
Dr. P. K. Ghosh	• Fellow, Indian Academy of Sciences. • Chairman, Water Technology Initiative, Department of Science & Technology, GoI. • Chairman, Project Evaluation Committee, Bilateral Programmes in Clean Tech Sector, DST-GITA. • Co-Chairman, CSIR Mission Mode Project on Sustainable Development through Catalysis. • Member, Asian Paints Technology Council. • Member, Board of Directors, Barefoot College, Tilonia, Rajasthan. • Member, Expert Committee for Appraisal of programmes and projects undertaken by the Department of Biotechnology, GoI during the 12th Plan. • Member, NRDC National Prize Award Committee • Member, Advisory and Screening Committee of the Common Research & Technology Development Hubs Programme of DSIR. • Vice President, Materials Research Society of India (MRSI).

Dr. P. R. Gogate	• Member, Indian Institute of Chemical Engineers, 2003. • Young Associate of Maharashtra Academy of Sciences, 2007. • Member, National Academy of Sciences, Allahabad, 2009. • Young Associate, Indian Academy of Sciences, Bangalore, 2009-2012. • Member, Indian Society for Technical Education, 2011. • Young Associate, Indian National Academy of Engineering, 2012. • Member, Editorial Board, Ultrasonics Sonochemistry, 2013-onwards. • Chartered Member, Institution of Chemical Engineers, UK, 2013. • Fellow, Maharashtra Academy of Sciences, 2014. • Member, Board of Governors & Honorary Secretary, UDCT Alumni Association, 2013-2015, 2015-2017, 2017-2019. • Member, Editorial Board, Desalination and Water Treatment (Taylor & Francis), 2016- 2018. • Associate Editor, Chemical Engineering Processing, Process Intensification (Elsevier), 2016-2019. • Member, Board of Governors & Honorary Secretary, UDCT Alumni Association. • Member, Editorial Board, Desalination and Water Treatment (Taylor & Francis), 2016- 2018. • Associate Editor, Chemical Engineering Processing, Process Intensification (Elsevier), 2016-2019. • Member, Editorial board, Ultrasonics Sonochemistry (Elsevier), 2015-2018.
Prof. J.B. Joshi	• Fellow, The World Academy of Sciences (TWAS). • Fellow, Indian National Science Academy (INSA). • Fellow of Indian Academy of Science (IASc). • Hon. Fellow, Indian Institute of Chemical Engineers. • Fellow, Maharashtra Academy of Sciences. • Patron Fellow, Marathi Vidnyan Parishad. • Coal Cleaning Initiative, DST, Government of India. • Chairman Science Advisory Committee, CSIR-IICT Hyderabad. • Fellow, Indian National Academy of Engineers(INAE).
Dr. R.D. Jain	• Member, European Respiratory Society, Switzerland.

	• Member, Young Scientist Committee, Controlled Release Society, USA. • Mentor, Mentor-Protégé Program, Member, Controlled Release Society, USA. • Member, Controlled Release Society- USA and Indian Chapter. • Member, Association of Biotechnology Led Enterprises (ABLE), India. • Member, American College of Clinical Pharmacology, USA . • Member, Proteomics Society, India.
Prof. A.M. Lali	• Member, Task Force on Production of Methanol using Biomass/Municipal Solid Waste/source other than coal , NITI Aayog, New Delhi, 2017-2018. • Member, Scientific Advisory Committee (SAC), Centre of Innovative and Applied Bioprocessing (CIAB), Mohali, 2016 – 2019. • Research Council as a Scientific Expert/Member for Bharat Petroleum Corporation Ltd. (BPCL), 2016-2018. • Consultant to a number of Companies in India and abroad for chemical/biochemical and biopharmaceutical/pharmaceutical manufacturing • Member, Task Force Committees on Biofuels; Algal Biotechnology; and Nutrition and Food Security, Department of Biotechnology, Ministry of Science & Technology, Government of India, 2011 onwards. • 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, Maharashtra Academy of Sciences. • 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, Research Council Committee, IMTECH, Chandigarh. • Member, Scientific Advisory Committee, IIT, Indore • Adjunct Professor, School of Mechanical and Chemical Engineering, The University of Western Australia, Australia.

	• Member Editorial Journal of Preparative Biochemistry and Biotechnology.
Prof. L. K. Mannepalli	• Dr. B. P. Godrej Distinguished Professor. • Independent Board of Directors- Indo Amines Ltd. • Independent Board of Directors-VOL. • Independent Board of Directors- GBL. • Member, CSIR-HRDG- Inorganic & Physical Chemistry Research Committee. • Member, Research Advisory Council, GAIL, (2018-2021). • Member, Department of Science and Technology-FIST (Chemical Sciences)(2015-till date). • Member, Research Council, HEMRL(High Energy Materials Research Laboratory), Pune (DRDO)(2015-tilldate). • Member, DST, SSR committee. • Member, Department of Science and Technology-SAIF (Chemical Sciences)(2019-till date). • Member, Third Part Evaluation Committee, R& D projects, Department of Science and Technology. • Member, Board of Governors, IIT-Hyderabad. • Member, Standing Committee for Promoting Women in Science. • Member, RAC- DRDO. • Chairperson , DST-PAC , I&PC, DST, India. • Member, Selection Committee, Raja Ramanna Fellowship Scheme, DAE, India. • Fellow of The World Academy of Sciences (TWAS). • Fellow of the Maharashtra Academy Sciences. • Fellow of the Indian National Science Academy. • Fellow of The Royal Society of Chemistry, UK. • Fellow of National Academy of Sciences, India. • Fellow of Andhra Pradesh Academy of Sciences, Hyderabad.
Dr. K. V. Marathe	• M.Ind.Soc.Comp.Mat. • M.I.I.Metal. • M.I.W.S.A.

	• Member scientific advisory committee SWDEWES-2013.
Dr. C. S. Mathpati	• Life Member, IIChE.
Dr. P. R. Nemade	• Member, Indian Membrane Society. • Member, Oil Technologists Association of India. • Member, Indian Institution of Chemical Engineers. • Membership of important Committees. • Membership of Editorial Boards with name of journal and agency.
Prof. A. B. Pandit	• Fellow, The World Academy of Sciences, 2015. • Fellow, National Academy of Sciences in India, Allahabad, 2009. • Fellow, Indian National Science Academy, 2008. • Fellow, Indian Academy of Sciences, 2008. • Fellow, Indian National Academy of Engineering, 2006. • Fellow, Maharashtra Academy of Sciences, 1996. • Member of DST-FIST. • Member of UGC-SAP. • Member of DST ChemEngg PAC. • Member of DST MOFPI PAC. • Adjunct Professor at BIT's Goa Campus. • Member, Board of Governor of IIT Bombay. • Chairman, HyCa Technology Pvt. Ltd., Mumbai. • President, Land Research Institute (LRI).
Prof. A. W. Patwardhan	• Fellow of Indian National Academy of Engineering.
Prof. A. V. Patwardhan	• Life member of Indian Institute of Chemical Engineers.

	• Member – Experts' panel formed by the DSIR (New Delhi) for accreditation of Research and Development units of various industries. • Member – reviewers' panel of Global Initiative of Academic Networks (GIAN), IIT Kharagpur. • PhD / Master's Open Defence Examinations of IIT Kharagpur; IIT Bombay; NIT Rourkela. • Faculty selection committees: IIT Kharagpur; Mumbai University; NMU Jalgaon. • BOG Member: UDCT Alumni Association; Thadomal Shahni Engineering College, Mumbai. • Member – Research and Recognition Committee in Chemical Engineering, Chemical Technology and Biotechnology (Engineering) under the faculty of Science and Technology. • Membership of Editorial Boards with name of journal and agency.
Prof. V. K. Rathod	• Fellow of Maharashtra Academy of Sciences • Member of IIChE. • Member of UDCT alumina Association. • Member of OTA. • Member, Academic Counsel, Dr. BATU, Lonere, Maharashtra. • Treasurer, Chemcon 2013. • Member Technical Committee Chemcon 2013. • Member, organizing committee for "Chemcareers 2012" organized by ICT-Royal Society of Chemistry (RSC)" October 2012. • Member, 2nd International Indo German Symposium on Green Chemistry and Catalysis for Sustainable Development, 2012. • Member, Technical Committee, Asia Pacific Congress on Catalysis (APCAT 7). • Membership of Editorial Boards with name of journal and agency : • Editorial board of Catalysis Green Chemistry and Engineering (Begell House Publication, USA). • Guest editor for two special issues i.e. Journal of Chemical Sciences (Springer) and Chemical Records (Wiley).
Prof. B. N. Thorat	• President, World Forum for Crystallization, Filtration and Drying (WFCFD). • Member, State Environment Appraisal Committee, MoEF, Maharashtra Govt. • Organizer 13th International Workshop on Crystallization, Filtration and Drying.

	• Member, CAC Advisory committee, Maharashtra Pollution Control Board. • Scientific member, Nordic Baltic Drying Conference, Saint Petersburg, Russia. • USAID and IKP: Solar Conduction Dryer scale up in Bangladesh, 2017.
Dr. P. D. Vaidya	• Life Member, Indian Institute of Chemical Engineers. • Alumnus, Alexander von Humboldt Foundation, Germany. • Membership of important committees. • Membership of Editorial Boards with name of journal and agency.
Prof. G.D. Yadav	• Life Fellow, Maharashtra Academy of Sciences • Life Fellow, Indian Institute of Chemical Engineers • Life Fellow, Indian Chemical Society • Member, American Chemical Society • Life Member, Catalysis Society of India • Life Member, Indian Society for Surface Science and Technology • Life Member, Membrane Society of India • Life Member, UDCT Alumni Association • Life Member, National Society of the Friends of Trees • Life Patron, Marathi Vidnyan Parishad • Member, Organizing Committee: 3rd International Workshop on Crystallization, Filtration and Drying, February 2008 • Current Catalysis, Bentham Science Publishers, 2011-on • Member, International Advisory Board • Member or chaired several national and international committees of MHRD, DST, DBT, UGC, AICTE, CSIR, the PSA's on Green Chemistry, the Planning Commission's Pan India S&T Committee, and the Government of Maharashtra's Rajiv Gandhi S&T Commission Peers Group. He is Chairman, Research Council, CSIR-CSMCRI. • Member of RC of IICT Hyderabad and NIIST Trivandrum. • Member of Selection Committees of directors of many CSIR labs. • Member of Maharashtra Innovation Council.

	• Member of many committees of UGC, AICTE, NAAC, DST, DBT, CSIR, CII, FICCI, ICC, IIChE, ACS. • Jagdish Chandra Bose National Fellow, Dept of Science & Technology, GoI • Chief Coordinator, Centre for Nanosciences& Nanotechnology, U of Mumbai • Chief Coordinator, Centre for Green Technology, U of Mumbai • Coordinator, UGC Centre for Advanced Studies in Chemical Engineering, ICT • Coordinator, UGC Networking Resource Centre in Chemical Engineering, ICT. • Co-P.I., DBT-ICT Centre for Energy Biosciences , ICT • Co-P.I., ICT-DAE Centre for Chemical Engineering Education and Research, ICT • Head Warden, ICT/UICT Hostels, U of Mumbai • Warden, Hostel No. 2 and 5 , UDCT/UICT, U of Mumbai • Warden, Hostel No. 2, UDCT/UICT, U of Mumbai • Johansen Crosby Visiting Chair Professor of Chemical Engineering , Michigan State U, East Lansing, MI, USA. • Senior Visiting Fellow (Reader's grade), Loughborough U, UK • Reader (Associate Professor) in Chemical Engineering, UDCT, U of Mumbai • Herdillia Chemicals-UDCT Diamond Jubilee Distinguished Fellow (Professor's grade), UDCT, U of Mumbai • Consultant, Bombay Oil Industries Ltd, Mumbai • NSERC Post Doctoral Fellow, U of Waterloo, Canada • Research Officer, Bombay Oil Industries Ltd, Mumbai • Leverhulme Overseas Visiting Fellow, Loughborough U, UK

4.3 Faculty as participants in Faculty development/training activities/STTPs (5) **Institute Marks (5)**

Faculty name	Title	Symposia/Seminar	Place	Duration	Year
Prof. V. K. Rathod	Training Programme on "Digital Transformation through E-Governance and Information & Communication Technology (ICT)".	Training at ICT	ICT, Mumbai	5 Days	2018

Prof. P. R. Gogate	Training Programme on “Digital Transformation through E-Governance and Information & Communication Technology (ICT)”.	Training at ICT	ICT, Mumbai	5 Days	2018
Prof. V. K. Rathod	Attended the faculty development programme on " Machine Learning with Business Applications" with Primer on Big Data Al & Deep Learning	Training at ICT	ICT, Mumbai	5 days	2019
Dr. S. V. Jadhav	Enhancing accountability and responsiveness in Scientific organization	Faculty Development Programme	Osmania university, Hydrabad	1 week	2019
Dr. P. D. Vaidya	Participation & oral Presentation titled "Butanol reforming for hydrogen production in 7th International Hydrogen & fuel cell conference	Faculty Development Programme	Jodhpur	2 days	2019
Prof. V. K. Rathod	Participate in the meeting of “Design and Development of a customised ERP system for a group of technical institutes, whose functions are similar in nature under TEQIP-III”.	Meeting	NPIU office, New Delhi	1 day	2019
Dr. V. H. Dalvi	The faculty development programme on" Machine Learning with Business Applications" with Primer on Big Data Al & Deep Learning	Faculty Development Programme	ICT, Mumbai	5 Days	2019
Prof. S. S. Bhagwat	Management Development Programme for Teaching Staff	Faculty Development Programme	ICT, Mumbai	4 days	2019
Prof. A. W. Patwardhan	Management Development Programme for Teaching Staff	Faculty Development Programme	ICT, Mumbai	4 days	2019
Prof. A. V. Patwardhan	Professional development training programme	Management Development Programme	IIT Trichy	4 days	2019
Prof. V. R. Gaval	Proficiency Improvement Programme on Advances in Plastic Moulding The Automotive Research Association of India	Faculty Development Programme	ARAI, Pune	1 day	2019

Prof. V. R. Gaval	Swayam Course on "Fundamentals of surface engineering mechanisms, processes and characterizations"	Faculty Development Programme	ICT, Mumbai	1 day	2019
Dr. M. D. Yadav	Faculty Development Programme on "Teaching and Learning of Advanced Control Systems"	Faculty Development Programme	ICT, Mumbai	1 week	2020
Dr. M. D. Yadav	webinar on "Technical Manuscript writing and publishing in reputed journal"	Faculty Development Programme	ICT, Mumbai	One day	2020
Dr. S. V. Jadhav	Programming for Everybody	Online Training	University of Michigan	8 weeks	2020
Dr. S. V. Jadhav	AI for everyone	Online Training	deeplearning.ai (Stanford University)	4 weeks	2020
Prof. P. R. Gogate	Online The Art of Living Productivity Enhancement Program (PEP)	Training at ICT	ICT, Mumbai	3 days	2020
Prof. D. D. Sarode	Training on scolarship Fellowship offered by Ministry of Tribal Affers Department	Faculty Development Programme	ICT, Mumbai	3 days	2021
Dr. S. V. Jadhav	Renewable Energy Engineering_ Solar, Wind and Biomass Energy Systems	Faculty Development Programme	SWAYAM	8 weeks	2021
Dr. S. V. Jadhav	Innovation to Entrepreneurship A Roadmap	Faculty Development Programme	ICT, Mumbai	1 week	2021
Dr. S. V. Jadhav	Application of Artificial Intelligence in Research and development	Faculty Development Programme	ATAL Academy	1 week	2021
Dr. S. V. Jadhav	Mentoring Pedagogy and Online Teaching in Higher Education	Faculty Development Programme	IIT, Guwahati	1 week	2021
Dr. M. D. Yadav	Recent trends in chemical and allied Industries	Faculty Development Programme	Government Polytechnic Daman	5 days	2021

Dr. M. D. Yadav	Environment, Energy , Health and Safety: Trends & Industrial Aspects	Faculty Development Programme	KK Wagh, Nashik	5 days	2021
Dr. M. D. Yadav	Recent Development in Sustainable processes	Faculty Development Programme	IICT Bhadohi	5 days	2021
Dr. M. D. Yadav	Refresher course in Material Science and Nanotechnology	Faculty Development Programme	North Eastern Hill University	14 days	2021
Dr. M. D. Yadav	Pedagogical Innovations and Research Methodology (Interdisciplinary)	Faculty Development Programme	SWAYAM	4 months	2021

4.4 Research and Development (30)

Institute Marks (30)

4.4.1 Sponsored Research (15)

Institute Marks (15)

Project Title	Duration	Funding Agency	Amount (in Rs)
Year 2020-2021			
AMCOS	1 year	DST	654689
SERB	1 year	DST	341210
FIST	1 year	DST	862012
WasteWater Treatment	1 year	DST/WTI	1188298
SERB	1 year	DST	1900000
SERB	1 year	DST	1906395
TDT	1 year	DST	8073
TDT	1 year	DST	12328880
BioGas	1 year	Centre for High Tech.	3503937
Waste management Tech	1 year	DST	151709
Waste water management	1 year	DST	2532802
COLD TRAP	1 year	IGCAR	258000
MHRD - STARS	1 year	MHRD - STARS	1729000

HINDUSTAN UNILEVER	1 year	Hindustan Unilever	110133
Bharat Petroleum Ltd	1 year	Bharat Petroleum Ltd	836120
Bharat Petroleum Ltd	1 year	Bharat Petroleum Ltd	27124731
Harvard Global Research Support Centre	1 year	Harvard Global Research Support Centre	735643
Catalysist & Process Devt	1 year	RIL-I	462500
CIPLA LTD	1 year	CIPLA LTD	2201551
Hydrogen Carriers	1 year	RIL-III	462500
Covestro India Pvt Ltd	1 year	Covestro India Pvt Ltd	795600
Daicel Chiral Technology	1 year	Daicel Chiral Technology	158844
SERB	1 year	DST	205598
Godavari Biorefineries Ltd	1 year	Godavari Biorefineries Ltd	426684
Godavari Biorefineries Ltd	1 year	Godavari Biorefineries Ltd	871292
Godavari Biorefineries Ltd	1 year	Godavari Biorefineries Ltd	765000
Methyl Methacrylate	1 year	RIL-II	462500
Rallis India Ltd.	1 year	Rallis India Ltd.	1790100
University of Leeds	1 year	University of Leeds	4826139
Vinati Organics Ltd 2	1 year	Vinati Organics Ltd-2	721680
Vinati Organics Ltd 3	1 year	Vinati Organics Ltd 3	584545
Vinati Organics Ltd 4	1 year	Vinati Organics Ltd 4	1320000
Balance Industrial Res Project	1 year	Balance Industrial Res Project	161925
Salicylates & Chemicals Pvt Ltd/	1 year	Salicylates & Chemicals Pvt Ltd/	1105000

S.A. Pharmachem P. Ltd.	1 year	S.A. Pharmachem P. Ltd.	670040.5
Biosimilar 2017	1 year	Biosimilar workshop 2017	7085247
CO_2 Conversion	1 year	ICT-OEC	827728
CO_2 Conversion	1 year	ICT-OECT	4517646
CO_2 Conversion Phase II	1 year	Ongc	900751
Year 2019-2020			
STARS	1 year	STARS	1729000
BRNS	1 year	DAE	483905
D.A.E	1 year	Centre For C.E.	26911478
DBT	1 year	BCIL	437969
Catalytic Aqueousphase	1 year	DBT	1571585
CO_2-Capturing Solvents	1 year	DST	1514765
DST/FIST	1 year	DST/FIST/CE	33339752
hydrogen From Biogas	1 year	DST	2432408
Indo-Japanese Lecture	1 year	DST	230000
Nanofibrous Bandage	1 year	DST	6236280
SERB-Brownian Movement	1 year	DST	220000
DST-SERB	1 year	DST-SERB	400000
SERB-Sea-Water	1 year	DST	424245
CFD Study	1 year	IGCAR	542800
BIRAC	1 year	BIRAC	942000
Agricultural Waste	1 year	RGSTC	7310933
Recycling of Water	1 year	RGSTC	3270608
RELIANCE IND. LTD	1 year	RELIANCE IND. LTD	351000
RELIANCE IND. LTD	1 year	RELIANCE IND. LTD	1326000
COLD TRAP	1 year	IGCAR	896800

Start-Up Grant	1 year	UGC-FRP	1226736
Aditya Birla Science and Tech Co	1 year	Aditya Birla Science and Tech Co	330748
Bajaj Consumer Care Ltd	1 year	BAJAJ CONSUMER CARE LTD	209250
Amines & Plasticizer Ltd.	1 year	Amines & Plasticizer Ltd.	243458
Bharat Petroleum Ltd	1 year	Bharat Petroleum Ltd	910379
Biocon SDN	1 year	Biocon SDN	2156216
Devt of Additive	1 year	BPCL	1175200
Lonic Liquid	1 year	BPCL	1279200
BPCL	1 year	BPCL	104773
Cadila Healthcare Ltd.	1 year	Cadila Healthcare Ltd.	405000
BioGas	1 year	Centre for High Tech	723668
CIPLA LTD.	1 year	CIPLA LTD.	824851
Coca Cola Ltd	1 year	Coca Cola Ltd	17146
Covestro India Pvt Ltd	1 year	Covestro India Pvt Ltd	1591200
Harvard Global Research Support Centre	1 year	Harvard Global Research Support Centre	300000
Equinox Environments	1 year	Equinox Environments	94500
Godavari Biorefineries Ltd	1 year	Godavari Biorefineries Ltd	913360
Haridevka Inc	1 year	HARIDEVKA INC	128125
2nd Project	1 year	HUL	283500
ICPE	1 year	ICPE	625050
CO_2 Conversion	1 year	ICT-OEC-	1884708
Phase III	1 year	ICT/ OECT	7702239

Kesar Petroproducts Ltd	1 year	Kesar Petroproducts Ltd	410400
Ephidrine	1 year	Malladi Drugs	408240
Mangalam Organic Ltd-1	1 year	Mangalam Organic Ltd	270000
Mangalam Organics Ltd.-2	1 year	Mangalam Organics Ltd	1017048
Mangalam Organics Ltd.	1 year	Mangalam Organics Ltd	383400
Marvel Drugs Pvt Ltd	1 year	Marvel Drugs Pvt Ltd	227700
Ms.IRELTDC	1 year	Ms.IRELTDC	1610000
Prasol Chemicals Pvt Ltd	1 year	Prasol Chemicals Pvt Ltd	594000
Raj Petro Specialities Ltd.	1 year	Raj Petro Specialities Ltd.	157424
RELIANCE IND. LTD	1 year	Reliance Ind. Ltd	387810
RELIANCE IND. LTD	1 year	Reliance Ind. Ltd	108000
SPARC	1 year	SPARC	1000000
Stelis Bio Pharma Pvt.Ltd.	1 year	Stelis Bio Pharma Pvt.Ltd.	502910
S S Techno Ltd	1 year	S S Techno Ltd	129600
University of Leeds	1 year	University of Leeds	5202391
UPL Limited/	1 year	UPL Limited/	2493190
Vinati Organics Ltd-2	1 year	Vinati Organics Ltd-2	1407720
Vinati Organics Ltd 3/	1 year	Vinati Organics Ltd 3/	787320
Wipro Limited	1 year	Wipro Limited	147876
Unilever Ltd.	1 year	Unilever Ltd.	623700
Year 2018-2019			
Cold storage facility for storage of fruits and vegetables using heat based refrigeration system	5 years	Rajiv Gandhi Science and technology Commission	12300000

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	4 years	Department of Science and Technology, Science and Engineering Research Board	5481000
Selection and Regeneration of potential ionic liquid for hydro processing feed stocks	3 years	Bharat Petroleum Corporation Limited	2000000
Development of additive for use in Delayed Coker Unit (DCU) to improve liquid yield	3 years	Bharat Petroleum Corporation Limited	2000000
Mitigation of water problems in Ausa town, Latur: wastewater management, Gaothan Lake rejuvenation, Potable water production through desalination of lake water and training of residents in matter of sanitation and water conservation	2 years	Department of Science & Technology, New Delhi	17300000
Use of composite foam to tackle the problems of oil spill and undesirable oil-in-water emulsion	2 years	ONGC	1800000
Treatment of Wastewater containing pesticides and emerging contaminants using novel approach of combined hydrodynamic cavitation and oxidation processes	3 years	Department of Science & Technology (WTI Scheme), New Delhi	5440000
Intensified recovery of valuable products from whey using ultrasound	3 years	Department of Science & Technology (MOFPI Scheme), New Delhi	4140000
Improved process for $CaSO_4$ crystallisation in concentrated brine using Ultrasound	3 years	Department of Atomic Energy-ICT	3500000
Water and wastewater treatment using hybrid advanced oxidation processes	3 years	Department of Science & Technology	7448000
Hydrodynamic cavitation based intensified and low cost technology for industrial wastewater treatment containing toxic organic compounds and solid particles	2 years	Department of Science and Technology, India-Ukraine collaboration	1302000

Conjugation and Radio labelling of various nano platforms for image guided theranostic applications	3 years	ICT-DAE	6532000
Green Process for the production and purification of low molecular weight Chitosan Oligomer using solid acid catalyst	3 years	DBT	5164000
Microfuidic Platform for Developing bioartificial Retina	2 years	DBT	6152000
Designing & Commercialization of affordable chemically defined serum free media & feed for high value Biosimilars Manufacture	2 years	BIRAC-BIPP	6544000
Preclinical Evaluation of Full Thickness Wound Healing Using Starch Based Artificial Skin Substitute in Rat Model	2 years	Rajiv Gandhi Science and Technology Commission	1400000
Bio-printing of 3D skin in a microfluidic device for a pre-clinical investigation	1 year	BIRAC-PACE	4940000
Development of Hydrodnamic flow focusing droplet generator for preparation of monodisperse Actinide Oxide microsperes	3 years	ICT-DAE	7021000
DBT-ICT Centre for Energy Biosciences: New and Extension Proposals	5 years	DBT, India	180000000
Energy Biosciences Overseas Fellowship & Chairs	11 years	DBT, India	147221000
Setting up Demonstration Plant to 1 ton/day MSW Into Energy	2 years	DBT, India	67039000
Performance and durability improvements in the solar thermal desalination system at Narippaiyur and utilization of reject sea water for algae cultivation to produce biogas	5 years	DST-KGDS	6135000
Customized, Demand Driven Convergent Water solutions to address prevalent and emerging water challenges in Mission Mode in Narrippaiyur Village, Ramanathapuram District, Tamil Nadu	3 years	DST-KGDS	1448000
Setting up Demonstration Plant to convert 1 MLD Barapullah Nallah Sewage into Clean Water and Energy	2 years	DBT, India	146771000
Biomass to Chemicals	5 years	DST	9171000
Thermal hydraulic studies related to coolants for new generation reactors	5years	DAE	7240000

Design aspects of Two opposed jet microextractor: Experimental and Computational Fluid Dynamics	1 year	Centre of Excellence in Process Intensification (TEQIP-II)	1600000
Computational fluid dynamics and experimental study of fluidization of lithium titanate particles in fluidized and packed fluidized bed	3 years	DAE- BRNS	2500000
Design and scale-up of impinging jet crystallizer using experimental and computational fluid dynamics	3 years	Science & Engineering Research Board (SERB)	1557000
Graphene oxide based membranes for desalination	3 years	DAE-ICT Center	7324000
Microbial enzyme based natural fiber (Ramie) finishing: an ecofriendly approach	4 years	DBT under Twinning Program	3500000
Sustainable processes for the development of keratin hydrolysate for the use as fertilizer, animal feed, and pet food	4 years	DST WMT	7500000
Characterization of the regeneration process for liquid sodium cold trap in a secondary system of fast	3 years	Indira Gandhi Center for Atomic Research (IGCAR)	3800000
Bioenergy, Fertilizer and Clean Water from Invasive Aquatic Macrophytes (UK 131,584 Sterling Pounds)	3 years	BBSRC, UK	11080000
J.C. Bose Fellowship	5 years	DST- Science and Engineering Research Board	8250000
A compact and cost-effective technology for on-site treatment & reuse of wastewater containing bio-refractory compounds	1 year	Indo US Science and Technology – IIGP 2.0 2018	1000000
CFD Modeling of Asymmetric Rotating Disc Contactors	3 years	DAE	5800000
Synthesis and modification of carbon nanotubes: modeling, experimentation and application	3 years	DAE	5430000
Thermal Hydraulic Studies on Boiling in Long Vertical Tubes	3 years	IGCAR	4375000

Development of grafted resins and membranes (extractants) for precious metals	3 years	DAE-ICT Centre	6900000
Development of grafted resins and membranes (extractants) for precious metals	3 years	RGSTC	6600000
Economic Non-food sugar from variable mixed solid waste for high value chemical products	3 years	Department of Biotechnology (Govt. of India)	32296000
Development of superior absorbents for CO_2 separation from biogas	3 years	Center for High Technology	8556000
Hydrogen production from macroalgal biomass via catalytic aqueous-phase reforming	2 years	TEQIP Phase 3	710000
Improved hydrogen production from biogas using sorption-enhanced reforming	3 years	Department of Science and Technology (HFC-2018)	4062000
Study on new green CO_2-capturing solvents	3 years	DST-DBT (Mission Innovation India - IC#3)	5791000
Catalytic aqueous-phase reforming of model compounds of microalgae and activated sludge	3 years	DST-DBT (Mission Innovation India - IC#4)	5080000
Rice bran Oil refining	3 years	Marico	2700000
Surface studies on lean amine solvents from gas treating units	2 years	Amines and Plasticizers	253000
Oil water interfacial tension of polymerised oil in presence of surfactants	1 year	Hindustan Unilever Ltd	1391000
Study of Interfacial properties of oil and surfactant solutions	6 month	DOW Chemical International Pvt.Ltd	337000
BEFWAM – Bioenergy Fertilizer and Freshwater for Invasive Aquatic Macrophytes	3 years	University of Leeds	GBP 130,000/-
Development of PCM Poultry Warmer for Open Shed Poultries	17 months	Covestro India Pvt Ltd	500000
Thermodynamics of Solubility of Tea components in water	4 years	Hindustan Unilever Ltd, Mumbai	4500000
Study of Forward Osmosis related to Sugar Industry	3 years		2400000

Dehydrogenaton reactions for industrial utility	4 years		3000000
Improved processing of camphor, terpenes and resins	2 years	Mangalam Organics Ltd.	1500000
Evaluation of advanced technologies for waste water treatment of Fiber plants of ABG	3 years	Aditya Birla Science and Technology Center	1167000
Dehydrogenaton reactions for industrial utility	4 years		3000000
Technoforce	5 years	Technoforce	2600000
Technoforce	5 years	Technoforce	2600000
United Phosphorous Limited	4 years	United Phosphorous Limited	2600000
New Formulations from Cannabis sp	2 years	Akseera Pharma, Canada	2285000
Chemo-Enzymatic Synthesis of Anti-infectives	3 years	Bajaj Healthcare Mumbai and AUA General,UAE	12876000
Activity Reduction of Peptidase Enzymes by various Metal Ion-Reducing agent combination	16 months	Anya Biopharma, Taiwan	5606000
Structural Characterization of Recombinant Protein	5 months	Stelis Biopharma	1095000
Evaluation New Probiotic Compositions	9 months	SA Pharmachem, Mumbai	3109000
To study the effect of increasing the enzyme concentration upon the reaction rate	17 months	Himedia Lab,Mumbai	443000
HMWP Characterization of Insulin Products	2 years	Biocon, Malaysia	4102000
Development of laboratory scale SMB chiral separation method for either Brivaracetum (S,R) from its disterioisomer (S,S) from OR for BRT-III (S,R) from its disterioisomer	1 year	Lupin Ltd	2800000
On-Shore Cultivation of Macroalgae at Bhavnagar District's Gujarat	1 year	Pidilite Industries Ltd.	4200000
Lab scale synthesis of fine and bulk chemicals	1 year	VOL, Mumbai	1180000
Development of economical processes for Important organic Intermediates	1 year	Marvel Drugs, Mumbai	800000+ Tax
Synthesis of terpene derivatives	1 year	Mangalam Organics, Mumbai	1500000+Tax

Hydroxylation of phenol	1 year	GACL, Baroda	3000000 + Tax
Surface-Charge Driven Algal-Water Separations: Fundamentals, Measurement, and Process Control Strategy	4 years	Reliance Industries Ltd	1794000
Recycle and reuse of membranes in waste water treatment	3 years	Konark Industries Ltd	1794000
Hygienic water free toilet	3 years	BIRAC- Bill and Melinda Gates Foundation	2122000
CFD simulation of the piping network inside the human body	4 years	United Phosphorous Limited	2600000
Liquid-Liquid Dispersion Studies in Static Mixers	6 months	Reliance Industries Ltd.	2360000
Development of Natural esters for Dielectric Applications	1.5 years	Raj Petro Specialties Pvt. Ltd	1750000
LDH Formation and Converging Diverging Cavitating Nozzles	3 year	Hindustan Unilever Ltd., Bangalore	7500000
Pyrolysis of biomass, coconut shell and peanut shell for value added products	4 years	Shri. K. V. Mariwala - Mariwala Trust	2600000
Integration of Sustainability Concepts in Chemical Engineering Education	2 years	WIPRO Foundation	456000
Modelling of Kinetics of Tea Infusion	4 years	Unilever	3020000
- Extraction of curcumin from turmeric - Synthesis and characterization of catalysts, Standardization of separation methods using synthetic mixture - Synthesis of intermediates for pharmaceutical application - Synthesis of chemical by ammoxidation and optimization study - Development of economical process for FDCA - Conversion of alcohols to amines	1 year	Konark Industries, Gujarat Alkali Ltd., Marvel Drugs, Kesar Petro products, Godavari Biorefineries Ltd, Indo Amines Ltd.	8000000
PU as Flame retardant	3 years	Covestro (India) Pvt. Ltd	4320000
Year 2017-2018			

Jaggery Granulation	18 months	Rajiv Gandhi Commission for S&T, Government of Maharashtra	10000000
Cold storage facility for storage of fruits and vegetables using heat based refrigeration system	5 years	Rajiv Gandhi Science and technology Commission	12300000
• Selection and Regeneration of potential ionic liquid for hydroprocessing feed stocks • Development of additive for use in Delayed Coker Unit (DCU) to improve liquid yield	2 years	Bharat Petroleum Corporation Limited	5000000
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	4 years	Department of Science and Technology, Science and Engineering Research Board	5480000
Biphasic Fermentation for Triacyl Glycerol (TAG) production from pretreated lignocellulosic biomass hydrolysates using Mixed Microbial Cultures	3 years	DBT, India	3984000
Setting up Demonstration Plant to 1 ton/day MSW Into Energy	2 years	DBT, India	67039000
International Genetically Engineered Machines Contest (iGEM)	2 years	DBT, India	2000000
Pilot scale translational facility for value added chemicals from biomass	1 year	DBT-CEB-BIPP	5000000
Performance and durability improvements in the solar thermal desalination system at Narippaiyur and utilization of reject sea water for algae cultivation to produce biogas	3 years	DST-KGDS	6135000
Integrated biorefinery for production of sorghum Grain protein Phase II	2 years	DBT-AISRF, India	11374000
Design of selective nanoporous membrane bioreactor for efficient production of bio-butanol from lignocellulosic sugar (SeNaMeB)	3 years	IGSTC, DST, India	11540000

Green enzymatic fat-splitting technology for production of fatty acids and Acyl Glycerols	3 years	DST, India	84753000
Transnational approaches to resolving biological bottlenecks in macroalgal biofuel production	3 years	DBT- BBSRC/ SuBBSea	20167200
Integrated technologies for economically sustainable bio-based	2 years	DBT, India	11374000
DBT-ICT Centre for Energy Biosciences: New and extension proposals	5 years	DBT, India	180000000
Improved production of biogas and bio-CNG from lignocellulosic biomass	4 years	MNRE	26716000
Energy Biosciences Overseas Fellowship & Chairs	11 years	DBT, India	147221000
Microbial enzyme based natural fiber (Ramie) finishing: an ecofriendly approach	3 years	DBT under Twinning Program	3500000
Indira Gandhi Center for Atomic Research (IGCAR)	3 years	Indira Gandhi Center for Atomic Research (IGCAR)	3800000
Development of grafted resins and membranes (extractants) for precious metals	3 years	DAE-ICT Centre	6900000
Synthesis of novel membranes and their applications in waste minimisation and recovery of valuable chemicals from dilute aqueous streams	3 years	Department of Science and Technology (SERB – Green Technology)	3500000
CFD Modeling of Assymetric Rotating Disc Contactors	3 years	DAE	5800000
Synthesis and modification of carbon nanotubes: modeling, experimentation and application	3 years	DAE	5430000
Thermal Hydraulic Studies on Boiling in Long Vertical Tubes	3 years	IGCAR	4375000
Utilization of Reetha fruit for value added products Utilization of curcumin industry waste to produce value added products	3 years	RGSTC	6600000
Treatment of Wastewater containing pesticides and emerging contaminants using novel approach of combined hydrodynamic cavitation and oxidation processes	3 years	Department of Science & Technology (WTI Scheme), New Delhi	5440000

Intensified recovery of valuable products from whey using ultrasound	3 years	Department of Science & Technology (MOFPI Scheme), New Delhi	4140000
Improved process for $CaSO_4$ crystallisation in concentrated brine using Ultrasound	3 years	Department of Atomic Energy-ICT	3500000
Polymeric Nanocarrier for siRNA Delivery	5 years	DBT	3250000
Development and evaluation of siRNA loaded nanomedicine in computational and cellular Models	3 years	DST	28200000
Conjugation and Radiolabelling of various nanoplatforms for image guided theranostic applications	3 years	ICT-DAE	6532000
Green Process for the production and purification of low molecular weight Chitosan Oligomer using solid acid catalyst	3 years	DBT	5164000
Microfuidic Platform for Developing bioartificial Retina	2 years	DBT	6151600
Development of Hydrodnamic flow focusing droplet generator for preparation of monodisperse Actinide Oxide microsperes	3 years	ICT-DAE	7020000
Skin on a chip for preclinical and biomedical applications	1 year	RUSA	3500000
Designing & Commercialization of affordable chemically defined serum free media & feed for high value Biosimilars Manufacture	2 years	BIRAC-BIPP	6544000
Thermal hydraulic studies related to coolants for new generation reactors	5 years	DAE	7240000
Design aspects of Two opposed jet microextractor: Experimental and Computational Fluid Dyanmics	1 year	Centre of Excellence in Process Intensification (TEQIP-II)	1600000
Computational fluid dynamics and experimental study of fluidization of lithium titanate particles in fluidized and packed fluidized bed	3 years	DAE-BRNS	2500000
Development of graphene oxide based membranes for desalination	3 years	DAE	
Development of ionic liquid membranes for gas separation	3 years	SERB	

Mitigation of water problems in Ausa town, Latur: wastewater management, Gaothan Lake rejuvenation, Potable water production through desalination of lake water and training of residents in matter of sanitation and water conservation	2 years	Department of Science & Technology, New Delhi	17300000
Studies on the drying and fluidization of algal slurry	1 year	Reliance Industries Limited	2100000
Rice bran Oil refining	3 years	Marico	2700000
Thermodynamics of Solubility of Tea components in water	4 years	Hindustan Unilever Ltd, Mumbai	4500000
Developed of improved animal feed ingredient from seed meals	3 years	Godrej Agrovet Ltd	10000000
Research & Development of Chloroplast Derived Enzyme Mixtures	2 years	Gencrest LLP	24600000
Research & Development & Generation, protection & Deployment of Innovation & Technologies in the field of Cellulosic Ethanol Technology & its scale up	2017 & ongoing	L&T Hydrocarbon Engineering Ltd	50000000
Kinetics of Synthesis of p-Hydroxy Benzaldehyde	1 year	ATUL LTD	2000000
Recovery of Water of Esterification	1 year	Asian Paints	300000
LDH Formation and Converging Diverging Cavitating Nozzles	5 years	Hindustan Unilever Ltd., Banglore	7500000
Conversion of 2,6-Dichloroacetophenone to 2,6-Dichlorobenzamide	1 year	Val Organics Pvt. Ltd Mumbai	500000
Purification of aqueous effluents from refineries and allied industries	6 months	VA Tech Wabag	1618800
Modelling of Kinetics of Tea Infusion	3 years	Unilever	3020000
• Extraction of curcumin from turmeric • Synthesis and characterization of catalysts, Standardization of separation methods using synthetic mixture • Synthesis of intermediates for pharmaceutical application • Synthesis of chemical by ammoxidation and optimization study • Development of economical process for FDCA		Konark Industries, Gujarat Chlor Alkali Ltd., Marvel Drugs, Kesar Petro products, Godavari Biorefineries Ltd, Indo Amines Ltd.	

• Conversion of alcohols to amines			
Improved processing of camphor, terpenes and resins	3 years	Mangalam Organics Ltd.	1500000
Recycle and Reuse of membrane in waste water treatment	3 years	Konark industries	
p-Hydroxy benzaldehyde production from p-cresol -A study on reaction kinetics	1 year	Atul Ltd.	1150000
Preclinical Evaluation of Full Thickness Wound Healing Using Starch Based Artificial Skin Substitute in Rat Model	2 years	Rajiv Gandhi Science and Technology Commission	1400000
New Formulations from Cannabis sp	2 years	Akseera Pharma, Canada	2285000
Chemo-Enzymatic Synthesis of Anti-infectives	3 years	Bajaj Healthcare Mumbai and AUA General,UAE	12800000
Quantification of Coating Material on Excipients	1 year	FMC, Bengaluru	197000
Characterization of Pharmaceutical Excipients	3 years	FamyCare, Mumbai	363000
Activity Reduction of Peptidase Enzymes by various Metal Ion-Reducing agent combination	16 months	Anya Biopharma, Taiwan	5606000
Interaction of API and Excipient	16 months	Wockhardt, Aurangabad	91000
Structural Characterization of Recombinant Protein	4 months	Stelis Biopharma,Bengaluru	1095000
Evaluation New Probiotic Compositions	9 months	SA Pharmachem, Mumbai	3109000
To study the effect of increasing the enzyme concentration upon the reaction rate	17 months	Himedia Lab,Mumbai	442000
Characterization of aggregates MW related variants generated in mAb by SV-AUC	7 months	Hetero Biopharma, Hyderabad	302000
HMWP Characterization of Insulin Products	2 years	Biocon, Malaysia	4102000
Hygienic water free toilet	3 years	BIRAC- Bill and Melinda Gates Foundation	2122000

United Phosphorous Limited	4 years	United Phosphorous Limited	2600000
Technoforce	4 years	Technoforce	2600000
PM-Fellow (Company Sponsor- United Phosphorous Limited)	4 years	PM Fellow	2600000
Hydroxylation of phenol.	1 year	GACL, Baroda	Rs 3000000 + Tax
Lab scale synthesis of fine and bulk chemicals	1 year	VOL, Mumbai	600000 + Tax
Development of economical processes for Important organic Intermediates	1 Year	Marvel Drugs, Mumbai	800000 + Tax
Phthalonitrile	1 year	Kesar Petro products, Mumbai	1360000 + Tax
Synthesis of terpene derivatives	1 year	Mangalam Organics, Mumbai	1500000 + Tax
Syntheis of FDCA	1 year	GBL, Mumbai	1570000 + Tax
Year 2016-2017			
Jaggery Granulation	18 months	Rajiv Gandhi Commission for S&T, Government of Maharashtra	10000000
Cold Storage Facility for Post-Harvest Preservation of Fruits and Vegetables Using Solar and Biomethane Heat Based Refrigeration	5 years	Rajiv Gandhi Commission for S&T, Government of Maharashtra	
Design of novel extractants by molecular modeling for heavy metal ions	5 years	Department of Atomic Energy/ Knowledge Based Engineering Centre	8440000

Selection and Regeneration of potential ionic liquid for hydroprocessing feed stocks	2 years	Bharat Petroleum Corporation Limited	5000000
Development of additive for use in Delayed Coker Unit (DCU) to improve liquid yield	2 years	Bharat Petroleum Corporation Limited	
Design of in situ photocatalytic systems for CO_2 conversion into useful organicmaterials using CdS Nanoparticles on the new polymeric CO_2 specific adsorbents and graphene supports	3 years	Department of Science and Technology, Science and Engineering Research Board	5480000
Design of novel extractants by molecular modeling for heavy metal ions	5 years	Department of Atomic Energy/ Knowledge Based Engineering Centre	8440000
Selection and Regeneration of potential ionic liquid for hydroprocessing feed stocks	2 years	Bharat Petroleum Corporation Limited	5000000
Turning distillery solid waste into energy		DBT-ICT Centre for Energy Biosciences (CEB) Technology	104572000
Biphasci fermentation for triacyl glycerol (TAG) production from pretreated lignocellulosic biomass	3 years	DBT	3984000
Pilot scale translational facility for value added chemicals from biomass	1 years	DBT-CEB-BIPP	5000000
Performance and durability improvements in the solar thermal desalination system at Narippaiyur and utilization of reject sea water for algae cultivation to produce biogas	3 years	DST-KGDS	6135000
Integrated biorefinery for production of sorghum Grain protein Phase II	2 years	DBT-AISRF, India	11374000
Design of selective nanoporous membrance bioreactor for efficient production of bio-butanol from lignocellulosic sugar (SeNaMeB)	3 years	IGSTC,DST, India	11540000
Green enzymatic fat-splitting technology for production of fatty acids and Acyl Glycerols	3 years	DST, India	84753000

Macroalgal biorefinery for CO_2 sequestration and production of biofuel and value added compounds	2 years	DSIR,DST, India	8500000
DBT-ICT Centre for Energy Biosciences: New and extension proposals	5 years	DBT, India	176326000
Improved production of biogas and bio-CNG from lignocellulosic biomass	3 years	MNRE, India	26716000
Transnational approaches to resolving biological bottlenecks in macroalgal biofuel production	3 years	DBT- BBSRC/ SuBBSea	20167200
Engineering enzymes, bacteria and bioconversion processes for advanced biofuels waste grain straw	3 years	DBT- BBSRC/ Ricefuel	15200000
Integrated technologies for economically sustainable bio-basedEnergy	3 years	AISRF Indo-Australia Grand Challenge Program, DST, India	70030000
Development and characterization of alternative affinity adsorbent for purification of therapeutic antibodies	3 years	DBT, India	6847000
Energy Biosciences Overseas Fellowship & Chairs	11 years	DBT, India	147221000
Microbial enzyme based natural fiber (Ramie) finishing: an ecofriendly approach	3 years	DBT under Twinning Program	3500000
Characterization of the regeneration process for liquid sodium cold trap in secondary system of fast	3 years	Indira Gandhi Center for Atomic Research (IGCAR)	3800000
Sustainable processes for the development of keratin hydrolysate for the use as fertilizer, animal feed and pet food	3 years	Department of Science and Technology, Government of India	7500000
Development of grafted resins and membranes (extractants) for precious metals	3 years	DAE-ICT Centre	6900000
Synthesis of novel membranes and their applications in waste minimisation and recovery of valuable chemicals from dilute aqueous streams	3 years	Department of Science and Technology (SERB – Green Technology)	3500000

CFD Modeling of Assymetric Rotating Disc Contactors	3 years	DAE-ICT Centre	
Synthesis and modification of carbon nanotubes: modeling, experimentation and application	3 years	DAE-ICT Centre	
Characterization of the Regeneration Process for Liquid Sodium Cold Trap in Secondary System of Fast Breeder Reactors	3 years	IGCAR	
Thermal Hydraulic Studies on Boiling in Long Vertical Tubes	3 years	IGCAR	
Treatment of Wastewater containing pesticides and emerging contaminants using novel approach of combined hydrodynamic cavitation and oxidation processes	3 years	Department of Science & Technology (WTI Scheme), New Delhi	5440000
Intensified recovery of valuable products from whey using ultrasound	3 years	Department of Science & Technology (MOFPI Scheme), New Delhi	4140000
Treatment of ground water containing arsenic and fluoride		DST	1700000
Sorption-enhanced reforming process for H_2 production	Since 2014	TEQIP (CoE Process Intensification)	1000000
Conjugation and radiolabelling of various nanoplatforms for image guided theranostic applications	3 years	DAE	6532000
NANOCOS": -COS-siRNA nanoplexes for inhibiting intracellular mycobacteria	2 years	DBT	1999000
Green process for the production and purification of low molecular weight Chitosan Oligomer using solid acid catalyst	3 years	DBT	5164000
Polysaccharide Based Nanocarriers for Improved Therapy of Systemic Fungal Infections	3 years	DAE-BRNS	1695000
3D cell culture Technology for Developing Affordable Bioengineered Skin for Burn Patients	3 years	Rajiv Gandhi Science and Technology Commission (RGSTC), Govt. of Maharashtra, 2014-2017	8510000

Development and evaluation of siRNA loaded nanomedicine in computational and cellularModels	3 years	DST Nanomission 2014-2017	28200000
Thermal hydraulic studies related to coolants for new generation reactors	5 years	DAE	7240000
Design aspects of Two opposed jet microextractor: Experimental and Computational Fluid Dyanmics	1 year	Centre of Excellence in Process Intensification (TEQIP-II)	1600000
Computational fluid dynamics and experimental study of fluidization of lithium titanate particles in fluidized and packed fluidized bed	3 years	DAE- BRNS	2500000
Development of graphene oxide based membranes for desalination	3 years	DAE	
Development of ionic liquid membranes for gas separation	3 years	SERB	
Hygienic Water Free Toilet	1.5 years	BIRAC-BMGF	
Development of Nanocontainers for Anticorrosive Applications	5 years	Department of Science and Technology, Government of India	3500000
Development of anodic material for dye sensitized solar cell	5 years	Department of Science and Technology, Government of India	3500000
J.C.Bose	9 years	DST	16000000
Gujrat Stevia Growers and Marketing Federation	1 year	Gujrat Stevia Growers and Marketing Federation	500000
Value addition of Crystallized Salts	6 months	Coromandel International Ltd.	569000
Cost effective binder similar to the present pre-gelatinized starch binder for coal briquetting	1 year	Gujarat Heavy Chemicals Pvt. Ltd.	1741000
Studies on the drying and fluidization of algal slurry	1 year	Reliance Industries Ltd.	489000
Rice bran oil refining	3 year	Marico	
Surface studies on lean amine solvents from gas treating units	1.5 years	Amines and plasticizers	

Vegetable oil properties: prediction by ANN	6 months	Marico	
Oil water interfacial tension of polymerized oil in presence of surfactant	1 year	HUL	
Surfactant	2 year	HUL	
Analysis of Pharmaceutical products	3 months	GSK	
Thermodynamics of Solubility of Tea components in water	4 years	Hindustan Unilever Ltd, Mumbai	4500000
Kinetics of Synthesis of p-Hydroxy Benzaldehyde	1 year	ATUL LTD	2000000
Recovery of Water of Esterification	1 year	Asian Paints	300000
LDH Formation and Converging Diverging Cavitating Nozzles	5 years	Hindustan Unilever Ltd., Banglore	7500000
Conversion of 2,6-Dichloroacetophenone to 2,6-Dichlorobenzamide	1 year	Val Organics Pvt. Ltd Mumbai	500000
Modelling of Kinetics of Tea Infusion	3 years	Unilever	
	3 years	Konark Industries	
Improved processing of camphor, terpenes and resins	3 years	Mangalam Organics Ltd.	1500000
Recycle and Reuse of membrane in waste water treatment	3 years	Konark industries	
Aqueous-phase reforming of methanol and bio-oil to hydrogen	2 years	Indian Oil Corporation Ltd.	8050000
p-Hydroxy benzaldehyde production from p-cresol -A study on reaction kinetics	1 year	Atul Ltd.	1150000
COS as a pharmaceutical excipient	3 years	Nanoxpert Technologies	
BIRAC- Bill and Melinda Gates Foundation	3 years	Hygienic water free toilet	2122000
United Phosphorous Limited	4 years	United Phosphorous Limited	2600000
Development of Polymer Surfactants	4 years	Swagat Polymers, Aurangabad (India)	2000000
Development of Polymer (Silicon) Surfactants	2 years	Elkay Chemicals Pvt. Ltd., Pune (India)	500000

Techno-feasibility of Various Dairy Products	1 year	Coca Cola, Shanghai/Atlanta	1410000
Development of Liquid Hand Soap Formulations	1 Year	P&P Products, Parbhani (India)	243000
Micro Hydro Electricity Production: Electricity Generation for Lighting and Irrigation using the natural flow of irrigation Canal and its Performance Evaluation	1 year	TEQIP Grant (A World bank Project Initiative)	700000
Reverse Engineering of value added natural resins	1 Year	Muraspec Distributors Pvt. Ltd. Mumbai (India)	1145000
Purification Techniques for raw Emerald and Blue Sapphire	1 year	Jai Ambe Developers Mumbai (India)	250000
Technoforce	4 years	Technoforce	2600000
United Phosphorous Limited	4 years	United Phosphorous Limited	2600000
PM-Fellow (Company Sponsor- United Phosphorous Limited)	4 years	PM Fellow	2600000
Hydroxylation of phenol.	1 year	GACL, Baroda	Rs 3000000 + Tax
Lab scale synthesis of fine and bulk chemicals	1 year	VOL, Mumbai	600000 + Tax
Development of economical processes for Important organic Intermediates	1 Year	Marvel Drugs, Mumbai	800000 + Tax
Phthalonitrile	1 Year	Kesar Petro products, Mumbai	1360000 + Tax
Engineering, procurement, construction, installation, commissioning & operation & maintenance service in the entire hydrocarbon chain with offerings across	10 years	L&T Hydrocarbon Engineering Ltd.	50000000

upstream, midstream & downstream and pipeline projects (DBT-ICT 2G Ethanol Technology)			
Developed of improved animal feed ingredient from seed meals	3 years	Godrej Agrovet Ltd	10000000
Purification of Glycerin	1 year	InNow LLC USA	2500000
Tea Alcohol Project	1 year	Bacardi & Co. Ltd	9560000
Mass cultivation of algae for aqua feed	2 year	Godrej Agrovet Pvt. Ltd.	11500000

4.4.2 Consultancy (from Industry) (15)

Institute Marks (15)

Project	Duration	Funding Agency	Amount (in Rs.)
Year 2020-2021			
Dr. V. H. Dalvi			
Consultancy Project	1 year	Sudorghan Chemicals Ltd	1500000
Consultancy Project	1 year	Matic Products Pvt Ltd	450000
Consultancy Project	1 year	Embio Limited	30000
Consultancy Project	1 year	Panorama Consulting	90000
Consultancy Project	1 year	Hindustan Organic Chemical Limited	600000
Prof. A. V. Patwardhan			
Consultancy Project	1 year	Aegis Logistics Limited, Mumbai	300000
Consultancy Project	1 year	Sadhana Nitro Chem Limited	300000
Consultancy Project	1 year	Kwality Chemical Industries Pvt Ltd	300000
Consultancy Project	1 year	VVF India Limited	300000
Dr. C. S. Mathpati			
Consultancy Project	1 year	Zoetis Pharmaceutical Research India Pvt Ltd	300000
Consultancy Project	1 year	UPL Ltd	415000
Consultancy Project	1 year	Jayant Agro	575000
Consultancy Project	1 year	Embio Limited	30000
Consultancy Project	1 year	Ultramarine & Plgments ltd	600000

Consultancy Project	1 year	Desha engineer	60000
Dr. R. D. Jain			
Consultancy Project	1 year	Cipla	300000
Consultancy Project	1 year	Biocon, Malaysia	489400
Dr. P. D. Vaidya			
Consultancy Project	1 year	Center for High Technology	300000
Prof. P. R. Gogate			
Consultancy Project	1 year	Rallis India	1050000
Consultancy Project	1 year	Anshul Speciality Molecules	90000
Consultancy Project	1 year	Gujarat Gas Limited	120000
Consultancy Project	1 year	Natural Remedies Pvt Ltd.	750000
	1 year	Kosharch LLP	75000
Consultancy Project	1 year	Khepra (USA)	215601
Consultancy Project	1 year	UPL Limited	45000
Prof. S.S Bhagwat			
Consultancy Project	1 year	Unilever industries Pvt. Ltd.	600000
Consultancy Project	1 year	Galaxy Surfactants Limited	1045440
Consultancy Project	1 year	K.V. Fire	150000
Consultancy Project	1 year	Aditya Birla Science & Technology Company Pvt. Ltd.	600000
Consultancy Project	1 year	Kiri Industries Ltd	600000
Consultancy Project	1 year	Hindiusta unileve Ltd	360000
Consultancy Project	1 year	UPL Limited	150000
Consultancy Project	1 year	National Paroxide Limited	150000
Prof. Lakshmi Kantam			
Consultancy Project	1 year	Prasol Chemical Pvt Ltd.	100000
Consultancy Project	1 year	Raill India Pvt Ltd	250000
Prof A.W.Patwardhan			

Consultancy Project	1 year	NOCIL	600000
Consultancy Project	1 year	Rallis India Pvt Ltd	1037750
Prof. V.K. Rathod			
Consultancy Project	1 year	Gujarat Gas Limited	240000
Consultancy Project	1 year	Natural Remedies Pvt Ltd	750000
Consultancy Project	1 year	Prasol Chemicals Pvt Ltd	100000
Consultancy Project	1 year	Raills India Limited	250000
Prof. G.D. Yadav			
Consultancy Project	1 year	OEC Project Manager	200000
Consultancy Project	1 year	Rallis I Pvt Ltd	250000
Prof. B.N. Thorat			
Consultancy Project	1 year	Covestro India Pvt Ltd.	450000
Prof. D.V. Pinjari			
Consultancy Project	1 year	Shiv Chem	300000
Consultancy Project	1 year	Patil Synthtech	100000
Consultancy Project	1 year	Indus water Institute Pvt ltd	150000
Consultancy Project	1 year	Progress lifesciences pvt ltd	600000
Dr. Manish Yadav			
Consultancy Project	1 year	Kiri Industries Limited	300000
Dr. Annamma Odaneth			
Consultancy Project	1 year	Lupin Limited	500000
Consultancy Project	1 year	UPL Limited	900000
Year 2019-2020			
Prof. S. S Bhagwat			
Consultancy Project	1 year	Unilever industries Pvt. Ltd.	240000
Consultancy Project	1 year	Galaxy Surfactants Limited	348480
Consultancy Project	1 year	K.V. Fire	300000

Consultancy Project	1 year	Aditya Birla Science & Technology Company Pvt. Ltd.	900000
Consultancy Project	1 year	Asian Paints Limited	175000
Consultancy Project	1 year	Marico Limited	42000
Consultancy Project	1 year	AZB and Partners	75000
Consultancy Project	1 year	K.V. Fire	150000
Consultancy Project	1 year	Aditya Birla Science & Technology Company Pvt. Ltd.	900000
Consultancy Project	1 year	Marico Limited	140000
Consultancy Project	1 year	Unilever industries Pvt. Ltd.	60000
Dr.V. H. Dalvi			
Consultancy Project	1 year	Whirlwind project	150000
Consultancy Project	1 year	Sudarshan Chemical	150000
Consultancy Project	1 year	Super Fresh	210000
Consultancy Project	1 year	Zoetis Pharmaceutical Research pvt ltd	300000
Prof.P. R. Gogate			
Consultancy Project	1 year	Green galaxy global environment services installment	89984
Consultancy Project	1 year	S. techno limited	60000
Consultancy Project	1 year	kesar petroproducts limited	135000
Consultancy Project	1 year	Cipla house	120000
Consultancy Project	1 year	Hisun adhesives	120000
Consultancy Project	1 year	Indoco remedies limited	180000
Consultancy Project	1 year	supreme petrochem ltd	90000
Consultancy Project	1 year	shyam chemical pvt ltd	150000
Consultancy Project	1 year	Hikal limited	270000
Consultancy Project	1 year	Loknete parshuram envirment protection co op soc ltd	300000
Consultancy Project	1 year	S. techno limited	150000
Consultancy Project	1 year	Vardhaman dyestuff industries pvt ltd	150000
Consultancy Project	1 year	Rallis India Pvt Ltd	550000

Prof. P.K.Ghosh			
Consultancy Project	1 year	Rubamin Limited	100000
Prof. V.G. Gaikar			
Consultancy Project	1 year	Fossil Liquid And Minerals Exim Pvt Ltd	1200000
Dr. Ratnesh Jain			
Consultancy Project	1 year	Mangalam Drugs & Organics Limited	600000
Consultancy Project	1 year	Sakar Healthcare Pvt Ltd	700000
Consultancy Project	1 year	Biocon Limited	708400
Prof. L.K. Mannepalli			
Consultancy Project	1 year	Mangalam Organics Ltd	50000
Consultancy Project	1 year	Marvel Drugs Pvt Ltd	100000
Consultancy Project	1 year	Prasol Chemical Pvt Ltd	100000
Consultancy Project	1 year	Vinati Organics Ltd	100000
Dr. C.S. Mathpati			
Consultancy Project	1 year	Fabex Engineering	150000
Consultancy Project	1 year	Jayant Agro- organices Ltd	280000
Consultancy Project	1 year	Fabex Engineering	150000
Consultancy Project	1 year	Zoetis Pharmaceutical Research Pvt Ltd	300000
Consultancy Project	1 year	Jayant Agro- organices Ltd	143750
Consultancy Project	1 year	Fabex Engineering	150000
Dr. Parag R. Nemade			
Consultancy Project	1 year	Galaxy Surfactants Ltd	150000
Prof A.W.Patwardhan			
Consultancy Project	1 year	NOCIL Limited	1200000
Consultancy Project	1 year	Rallis India Pvt Ltd	1050000
Prof.A.V.Patwardhan			

Consultancy Project	1 year	Aegis Logistics Limited	950000
Prof. V.K.Rathod			
Consultancy Project	1 year	Asian paints limited	200000
Consultancy Project	1 year	Amarjyot chemical coration	100000
Consultancy Project	1 year	Marvel drugs pvt ltd	100000
Consultancy Project	1 year	Gujarat Alkalies & chemical limited	250000
Consultancy Project	1 year	kesar petroproducts limited	200000
Consultancy Project	1 year	Godavari bio-irefiners ltd	200000
Consultancy Project	1 year	Mangalam organics ltd	50000
Consultancy Project	1 year	Indo amines limted	200000
Consultancy Project	1 year	Vivid global ind ltd	150000
Consultancy Project	1 year	IPCA labortories ltd	325000
Consultancy Project	1 year	Heubach Colour pvt ltd	100000
Consultancy Project	1 year	mangalam organics ltd	300000
Consultancy Project	1 year	Prasol chemical pvt ltd	100000
Consultancy Project	1 year	Egulnox Enviroments I pvt ltd	150000
Consultancy Project	1 year	Vinat Organics ltd	100000
Consultancy Project	1 year	Aaradhana Energy Pvt Ltd	100000
Prof. P.D.Vaidya			
Consultancy Project	1 year	Centre For High Techology	300000
Prof. G.D. Yadav			
Consultancy Project	1 year	OEC Project Manager	160000
Dr. S. D. Samant			
Consultancy Project	1 year	BASF india ltd	90000
Dr. S. V. Jadhav			
Consultancy Project	1 year	Amarjyot Chemical Corporation	50000
Year 2018-2019			

Prof. S.S Bhagwat			
Consultancy Project	1 year	Sumwin Solution Malaysia	500000
Consultancy Project	1 year	Toyo Engineering India Pvt.ltd.	75000
Consultancy Project	1 year	Lorel India Pvt.Ltd	60000
Consultancy Project	1 year	Aditya Birla Science & Tech. Co. Ltd.	900000
Consultancy Project	1 year	Marico Ltd.	350000
Consultancy Project	1 year	K.V.Fire	400000
Consultancy Project	1 year	Aditya Birla Science & Tech. Co. Ltd.	300000
Consultancy Project	1 year	Dow Chemicals International Pvt. Ltd.(R & P)	150000
Consultancy Project	1 year	Balmer Lawrie	300000
Consultancy Project	1 year	Reliance Utilities Power Pvt.Ltd.	300000
Consultancy Project	1 year	Galaxy Surfactants Ltd	348480
Consultancy Project	1 year	Hindustan Unilever ltd	375000
Dr. V. H. Dalvi			
Consultancy Project	1 year	Zoetis Pharmaceutical Research Pvt.Ltd/st Inst	600000
Consultancy Project	1 year	Panorama Consulting	90000
Consultancy Project	1 year	Eternis Fine Chemicals Ltd.	1500000
Prof.P.R. Gogate			
Consultancy Project	1 year	A.B.S.&T.C.L.	150000
Consultancy Project	1 year	Green Galaxy Global Enviromental Services	65800
Consultancy Project	1 year	Supreme Petrochem Ltd.	150000
Consultancy Project	1 year	Excel Industries	175000
Consultancy Project	1 year	Whirlpool of India Ltd	180000
Consultancy Project	1 year	Excel Industries Ltd.	45000
Consultancy Project	1 year	Mangalam Organics	270000
Consultancy Project	1 year	Green Galaxy Global Enviromental Services	100000
Consultancy Project	1 year	S.S.Techno Limited	600000

Consultancy Project	1 year	Mangalam Organics	270000
Consultancy Project	1 year	Shree Pushkar Chemicals & Fertilisers Ltd.	165000
Consultancy Project	1 year	Deepak Nitrite Ltd.	180000
Consultancy Project	1 year	Hikal Ltd.	150000
Consultancy Project	1 year	SI Group	180000
Consultancy Project	1 year	A.B.S.&T.C.L.	37000
Consultancy Project	1 year	Mangalam Organics	291600
Prof. P. K. Ghosh			
Consultancy Project	1 year	Asian Paints	300000
Consultancy Project	1 year	Rubamin Limited	100000
Dr. R. D. Jain			
Consultancy Project	1 year	Advy Chemicals Pvt Ltd	1100000
Consultancy Project	1 year	Gangwal Chemicals Pvt.Ltd.	500000
Consultancy Project	1 year	Mangalam Drugs & Organics Ltd.	2400000
Consultancy Project	1 year	S.A. Pharmachem Pvt Ltd.	675000
Prof. L.K. Mannepalli			
Consultancy Project	1 year	Kesar Petroproducts Ltd.	200000
Consultancy Project	1 year	Godavari Biorefineries	200000
Consultancy Project	1 year	Chrom Specialities Ltd	500000
Prof A.M. Lali			
Consultancy Project	1 year	Gencrest LLP	675000
Consultancy Project	1 year	Lupin Ltd	600000
Consultancy Project	1 year	Kanoria Chemicals & Industries Ltd.	150000
Consultancy Project	1 year	Lupin Ltd	150000
Dr. C.S. Mathpati			
Consultancy Project	1 year	Jayant Agro-Organics Ltd.	500000
Consultancy Project	1 year	UPL	500000

Consultancy Project	1 year	Zoetis Pharmaceutical Research Pvt.Ltd/	300000
Consultancy Project	1 year	Jayant Agro-Organics Ltd.	135000
Consultancy Project	1 year	Fabex Engineering	600000
Consultancy Project	1 year	Jayant Agro-Organics Ltd.	575000
Dr. K. V. Marathe			
Consultancy Project	1 year	PACE (India)	125000
Consultancy Project	1 year	Indian Center For Plastics in the Environment	1500000
Prof. A.B. Pandit			
Consultancy Project	1 year	A.B.S.&T.C.L	150000
Consultancy Project	1 year	Gothi Impex	600000
Consultancy Project	1 year	Encore Natural Polymer Pvt. Ltd	1800000
Consultancy Project	1 year	Gothi Impex	600000
Consultancy Project	1 year	Jayant-Agro Organics Ltd	60000
Prof A. W. Patwardhan			
Consultancy Project	1 year	Nocil Ltd	1200000
Prof. V. K. Rathod			
Consultancy Project	1 year	IG Petrochemicals Ltd	150000
Consultancy Project	1 year	Kesar Petroproducts Ltd.(Research & Projects)	200000
Consultancy Project	1 year	Godavari Biorefineries Ltd	200000
Consultancy Project	1 year	Amarjyot Chemical Corporation	100000
Consultancy Project	1 year	Johnson Matthey Chemical India Ltd	150000
Consultancy Project	1 year	Aditya Envirnmental services pvt ltd	450000
Prof. B. N. Thorat			
Consultancy Project	1 year	Sharon Bio-Medicine Ltd.	200000
Consultancy Project	1 year	Pidlite Industries Ltd.	150000
Consultancy Project	1 year	Maldeep Catalysts India	200000
Consultancy Project	1 year	Relicane Industries Ltd.	150000

Consultancy Project	1 year	Piramal Enterprises Ltd	250000
Prof. G. D. Yadav			
Consultancy Project	1 year	ONGC Centre Alternative to Plat.	4000000
Consultancy Project	1 year	McKinsey & Company	1800000
Year 2017-18			
Prof. S.S. Bhagwat			
Consultancy Project	1 year	Jayant Agro Organics	900000
Consultancy Project	1 year	Jayant Agro Organics,	450000
Consultancy Project	1 year	Galaxy Surfactants Ltd.	950400
Consultancy Project	1 year	Galaxy Surfactants Ltd.	150000
Consultancy Project	1 year	Marico Ltd.	350000
Consultancy Project	1 year	K.V.Fire	300000
Consultancy Project	1 year	Balmer Lawrie	300000
Consultancy Project	1 year	Aditya Birla Science & Tech. Co. Ltd.	450000
Consultancy Project	1 year	Marico Ltd.	180000
Consultancy Project	1 year	Sumwin Solution, Malayasia	300000
Consultancy Project	1 year	Reliance Utilities Power Pvt.Ltd	300000
Consultancy Project	1 year	Aditya Birla Science & Tech. Co. Ltd.	300000
Dr. V. H. Dalvi			
Consultancy Project	1 year	Sheney Enterprises Pvt.Ltd.	15000
Consultancy Project	1 year	Zoetis Pharmaceutical Research Pvt.Ltd	300000
Prof. P. R. Gogate			
Consultancy Project	1 year	Privi Organics Ltd..from 2016-17	300000
Consultancy Project	1 year	Y. Cube Tech. Pvt. Ltd	24000
Consultancy Project	1 year	Mangalam Organics Ltd.	675000
Consultancy Project	1 year	Navin Flurine International Ltd	120000
Consultancy Project	1 year	Autus International	100000

Consultancy Project	1 year	Privi Organics Ltd.	150000
Consultancy Project	1 year	Godavari Drugs Ltd.	90000
Consultancy Project	1 year	Zirconium Chemical Pvt. Ltd.	75000
Consultancy Project	1 year	Asetic Life Sciecne Ltd.	180000
Consultancy Project	1 year	Innovassynth Technologies (India)Ltd.	90000
Consultancy Project	1 year	Chemco Innovative Chemie Pvt.Ltd.	90000
Consultancy Project	1 year	Chemference	45000
Consultancy Project	1 year	Green Galaxy Global Enviromental	658600
Consultancy Project	1 year	Lasons India Pvt. Ltd.	180000
Consultancy Project	1 year	Excel Industries Ltd.	45000
Consultancy Project	1 year	Hikal Ltd.	150000
Consultancy Project	1 year	Mangalam Organics	270000
Prof. P. K. Gosh			
Consultancy Project	1 year	Rubamin Ltd	300000
Prof. S.S. Jogwar			
Consultancy Project	1 year	Siemens Ltd	210000
Dr. R.D. Jain			
Consultancy Project	1 year	Wackhord Ltd	30000
Consultancy Project	1 year	Galaxo Smitkline	63600
Consultancy Project	1 year	Anya Biopharma	731800
Consultancy Project	1 year	Famy Care Ltd.	60000
Consultancy Project	1 year	Advy Chemicals Pvt. Ltd.	600000
Consultancy Project	1 year	Anya Biopharma, Taiwan	731800
Consultancy Project	1 year	Hetro Biopharma	100000
Prof. L.K. Mannepalli			
Consultancy Project	1 year	Muncipal Corporation	249900

Consultancy Project	1 year	Relience Industrial Ltd.	450000
Prof A.M. Lali			
Consultancy Project	1 year	Godrej Agrovet Ltd	1000000
Consultancy Project	1 year	Gencrest LLP	750000
Dr. C.S. Mathpati			
Consultancy Project	1 year	Jayant Agro -Organics Ltd.	500000
Consultancy Project	1 year	UPL Ltd.	333333
Consultancy Project	1 year	Sun Pharma Technical Trading Academy	150000
Consultancy Project	1 year	Zoetis Pharmaceutical Research Pvt.Ltd	300000
Dr. P.R. Nemade			
Consultancy Project	1 year	MRIB Chemicals	150000
Prof. A.B. Pandit			
Consultancy Project	1 year	Khaitan And Co	90000
Consultancy Project	1 year	GMM Pfaudler	900000
Consultancy Project	1 year	B.P.C.L.	500000
Consultancy Project	1 year	Narendra Karnavat	150000
Consultancy Project	1 year	SRF Ltd.	10000
Consultancy Project	1 year	Encore Natural Polymer Pvt. Ltd	590000
Prof A.W.Patwardhan			
Consultancy Project	1 year	Siemens Ltd	84000
Consultancy Project	1 year	Nocil Ltd	1200000
Consultancy Project	1 year	GMM Pfaudler Ltd	900000
Consultancy Project	1 year	SRF Ltd.	100000
Prof. A.V.Patwardhan			
Consultancy Project	1 year	National Peroxide Ltd.	300000
Consultancy Project	1 year	Siemens Ltd	84000
Consultancy Project	1 year	Bajaj Allianz General Insurance Company Ltd.	150000

Prof. V.K.Rathod			
Consultancy Project	1 year	Nautraplus India Ltd.	150000
Consultancy Project	1 year	Harman FinochemLtd.	225000
Consultancy Project	1 year	Navin Fluorine Internatinal Ltd.	120000
Consultancy Project	1 year	Marvel Drugs Pvt.Ltd.	200000
Consultancy Project	1 year	Crystal Surfactants & Chemical	90000
Consultancy Project	1 year	Godrej Agrovate Ltd	100000
Consultancy Project	1 year	Godavari Biorefineries Ltd	200000
Consultancy Project	1 year	Hikal Ltd.	500000
Consultancy Project	1 year	Gitanjali Chemicals Pvt. Ltd.	100000
Consultancy Project	1 year	Aditya Enviromental Services Pvt. Ltd.	450000
Consultancy Project	1 year	Indo Amines Ltd	200000
Prof. B.N.Thorat			
Consultancy Project	1 year	Marvel Drugs Pvt Ltd	150000
Consultancy Project	1 year	Kansai Nerolac	450000
Consultancy Project	1 year	Aquapharma Chemicals Pvt. Ltd.	250000
Consultancy Project	1 year	Sharon Bio-Medicine Ltd.	200000
Prof. P.D.Vaidya			
Consultancy Project	1 year	Aquapharma Chemicals Pvt. Ltd.	250000
Consultancy Project	1 year	Indian Oil Corparation Ltd	900000
Prof. G.D. Yadav			
Consultancy Project	1 year	ONGC Energy Centre (Altermative to Platimum)	280000.00
Consultancy Project	1 year	Malladi Drugs & Pharmaceutical Ltd.	1500000
Consultancy Project	1 year	ONGC (ICT-OEC/Phase III)	3000000
Dr. S. D. Samant			
Consultancy Project	1 year	NOCIL ltd	700000
Dr. D. V. Pinjari			

Consultancy Project	1 year	Coca Cola R & D	35000
Consultancy Project	1 year	Coca-Cola Ltd	300000
Consultancy Project	1 year	Kargwal Constructions Pvt. Ltd.	80000
Consultancy Project	1 year	Aarti Drugs Ltd.	300000
Consultancy Project	1 year	Nirbhay Rasayan Pvt. Ltd.	150000
Consultancy Project	1 year	Omega Colours Pvt. Ltd.	150000
Consultancy Project	1 year	Shubashri Chemicals Pvt. Ltd.	30000
Consultancy Project	1 year	Kargwal Constructions Pvt. Ltd.	30000
Consultancy Project	1 year	Setco Automic, Vadodara, Gujrat	93000
Year 2016-17			
Prof. S.S. Bhagwat			
Consultancy Project	1 year	Unicorn Laboratories Ltd.	450000
Consultancy Project	1 year	Marico,Ltd.	350000
Consultancy Project	1 year	Balmer Lawries&Co,Ltd.	225000
Consultancy Project	1 year	K.V.Fire Chemicals	300000
Consultancy Project	1 year	Galaxy Surfactants Ltd.	950400
Consultancy Project	1 year	Lubrizol India Pvt.Ltd.	75000
Consultancy Project	1 year	Hindustan Unilever Ltd.,	360000
Consultancy Project	1 year	Aarti Industries Ltd.	50000
Consultancy Project	1 year	Aditya Birla Science & Technology,	900000
Consultancy Project	1 year	Atul India Ltd.	250000
Consultancy Project	1 year	Miuro Trading &Finvest Pvt. Ltd.	150000
Consultancy Project	1 year	Hindustan Unilever Ltd.	375000
Consultancy Project	1 year	Unilever Industries Ltd.	360000
Consultancy Project	1 year	Glaxo Smith.K.Ltd	120000
Consultancy Project	1 year	Jayant Agro-Organics	450000
Prof. V. H. Dalvi			

Consultancy Project	1 year	Bhavi Plast Pvt. Ltd	75000
Consultancy Project	1 year	Adya Entersies	150000
Prof. P. R. Gogate			
Consultancy Project	1 year	Excel Industries Ltd.	175000
Consultancy Project	1 year	Innovassynth Technologies India Ltd.	90000
Consultancy Project	1 year	Anshul Specialty Molecules Ltd.	75000
Consultancy Project	1 year	Gharda Chemical Ltd.	90000
Consultancy Project	1 year	Deepak Nitrite Ltd.	90000
Consultancy Project	1 year	Hikal Ltd.	120000
Consultancy Project	1 year	Deepak Nitrite Ltd.	240000
Consultancy Project	1 year	Anek Prayog Pvt Ltd.	90000
Consultancy Project	1 year	Y Cube Technologies Pvt. Ltd.	183000
Consultancy Project	1 year	RPG Life Sciences Ltd.	120000
Consultancy Project	1 year	Hospira Healthcare India Pvt Ltd.	120000
Consultancy Project	1 year	Dombivli Common Effluent Treatment Plant	150000
Consultancy Project	1 year	Deepak Nitrite Ltd.	30000
Consultancy Project	1 year	Deepak Nitrite Ltd.	120000
Consultancy Project	1 year	Eskay Dyestuff Organic Chemical Pvt. Ltd.	210000
Consultancy Project	1 year	Mangalam Organics Ltd.	225000
Prof. P. K. Gosh			
Consultancy Project	1 year	Atul Limited.	100000
Consultancy Project	1 year	Rubamin Limited.	100000
Prof. V. G. Gaikar			
Consultancy Project	1 year	Unilever Industries Ltd	270000
Prof. S.S. Jogwar			
Consultancy Project	1 year	Lubrizol India Pvt. Ltd.	150000
Consultancy Project	1 year	Siemens Ltd.	210000

Dr. Ratnesh Jain			
Consultancy Project	1 year	FMC India Pvt. Ltd.	72000
Consultancy Project	1 year	Glaxo Smithkline Pharmaceutical Ltd.	75000
Consultancy Project	1 year	Glaxo Smithkline Pharmaceutical Ltd.	122400
Prof. L. K. Manipalli			
Consultancy Project	1 year	Eternis Fine Chemical Ltd.	600000
Consultancy Project	1 year	Aarti Drugs Ltd.	600000
Prof. A. M. Lali			
Consultancy Project	1 year	Godrej Agrovet Ltd.	1000000
Dr. C. S. Mathpati			
Consultancy Project	1 year	Bhavi Plast Pvt. Ltd.	75000
Consultancy Project	1 year	U.P.L. Ltd.	500000
Dr. P. R. Nemade			
Consultancy Project	1 year	Galaxy Surfactants Ltd.	150000
Prof. A. B. Pandit			
Consultancy Project	1 year	SRF Ltd.	900000
Consultancy Project	1 year	Encore Natural Polymers Pvt.Ltd.	1800000
Consultancy Project	1 year	Ideal Chemi Plast Pvt. Ltd.	102000
Consultancy Project	1 year	Dr. Aykan Textiles Pvt. Ltd.	75000
Consultancy Project	1 year	L & T Tech	600000
Prof. A. W. Patwardhan			
Consultancy Project	1 year	Praj Industries Ltd.	300000
Consultancy Project	1 year	Nocil Ltd.	1200000
Consultancy Project	1 year	Lubrizol India Pvt. Ltd.	225000
Consultancy Project	1 year	Siemens Ltd.	84000
Prof. A. V. Patwardhan			
Consultancy Project	1 year	Lubrizol India Pvt. Ltd.	150000

Consultancy Project	1 year	National Peroxide Ltd.	300000
Consultancy Project	1 year	Sudarshan Chemical Industries Ltd.	45000
Consultancy Project	1 year	Hindusthan Chemicals Company, Surat	30000
Consultancy Project	1 year	Atul Ltd.	250000
Consultancy Project	1 year	Seimens Ltd.	84000
Prof. V. K. Rathod			
Consultancy Project	1 year	Innovative Eco-Care Pvt. Ltd.	252000
Consultancy Project	1 year	Three M Paper Manufacturing Co Pvt.. Ltd.	250000
Consultancy Project	1 year	Nichem Solutions	51000
Consultancy Project	1 year	Konark Herbals And Health Care	600000
Consultancy Project	1 year	Aditya Environmental Services Pvt. Ltd.	225000
Consultancy Project	1 year	Arch Pharmalabs Ltd.	150000
Consultancy Project	1 year	Prasol Chemicals Ltd.	173913
Consultancy Project	1 year	Natroplus India Ltd.	150000
Consultancy Project	1 year	Vetpharma Ltd.	150000
Consultancy Project	1 year	Natroplus India Ltd.	150000
Prof. B. N. Thorat			
Consultancy Project	1 year	J. S. Industries Ltd.	150000
Consultancy Project	1 year	RPG Life Sciences Ltd.	100000
Consultancy Project	1 year	Pidilite Industries Ltd.	200000
Consultancy Project	1 year	Excel Industries Ltd.	225000
Consultancy Project	1 year	Gulbrandsen Chemicals Pvt. Ltd.	500000
Consultancy Project	1 year	Aquapharma Chemicals Pvt. Ltd.	250000
Consultancy Project	1 year	Pulera Chemicals India Pvt. Ltd.	50000
Consultancy Project	1 year	Spectrochem Pvt. Ltd.	50000
Consultancy Project	1 year	Khanna & Khanna Ltd.	50000
Consultancy Project	1 year	Marvel Drugs Pvt. Ltd.	150000

Prof. P. D. Vaidya			
Consultancy Project	1 year	Atul Ltd.	150000
Consultancy Project	1 year	Indian Oil Corporation Ltd.	300000
Consultancy Project	1 year	Excel Industries Ltd.	225000
Consultancy Project	1 year	Aquapharma Chemicals Pvt. Ltd.	250000
Prof. G. D. Yadav			
Consultancy Project	1 year	Delta Finochem Pvt. Ltd.	900000
Consultancy Project	1 year	Resonance Specialities Ltd.	600000
Consultancy Project	1 year	Heubach Colour Pvt. Ltd.	
Consultancy Project	1 year	ONGC Energy Centre	100000
Consultancy Project	1 year	ONGC Energy Centre	120000
Consultancy Project	1 year	ONGC Energy Centre	160000
Dr. D. D. Pinjari			
Consultancy Project	1 year	Coca Cola R & D	35000
Consultancy Project	1 year	Coca-Cola Ltd	300000
Consultancy Project	1 year	Kargwal Constructions Pvt. Ltd.	80000
Consultancy Project	1 year	Aarti Drugs Ltd.	300000
Consultancy Project	1 year	Nirbhay Rasayan Pvt. Ltd.	150000
Consultancy Project	1 year	Omega Colours Pvt. Ltd.	150000
Consultancy Project	1 year	Shubashri Chemicals Pvt. Ltd.	30000
Consultancy Project	1 year	Kargwal Constructions Pvt. Ltd.	30000
Consultancy Project	1 year	Setco Automic, Vadodara, Gujrat	93000

5 LABORATORIES AND RESEARCH FACILITIES (75) Institute Marks (75)

5.1 Adequate and well equipped laboratories in area of Program specialization (30)

Institute Marks (30)

Sr. No	Name of the Laboratory	Specialized Equipment Name	Equipment Details	Utilization details from the perspective of PO attainment
1	GDY Lab (A110, A114)	ASAP; TDP-TPR; Gas chromatography; HPLC; Micro reactor; High pressure reactor; Vapor phase reactor; DCS-TGA: Thermal Analysis	Preparation of membrane Vapor phase reaction High pressure reaction Synthesis of Nanomaterials Extraction of enzymes Synthesis of different Acid/ Base Catalyst	PO1, PO2, PO3, PO4
2	SSB Lab (Basement 004)	Kruss Tensiometer; Goniometer; UV spectrophotometer; Foaming apparatus; Maximum Bubble pressure apparatus; Turbidity Meter; Stop flow apparatus; Ross mill apparatus	Synthesis of Novel surfactants Study of Mixed micellar systems Thermodynamic model study of surfactant mixtures Study of biosurfactants Exergy analysis ANN Molecular modelling Thermodynamic and mathematical Modelling and simulations of power cycle	PO1, PO2, PO3
3	VGG Lab (Basement 001, 002, 003)	HPLC; GC; UV Spectrophotometer; DSC; SFC-SFE; Spectrofluorometer; Servers	Biodiesel and Thermochemical conversions of Biomass Process Intensification by microwave, Soft Condensed Matter Reactive Adsorptive Separations and Molecular Design of Functionalized Polymers Interfacial Science and Engineering Clean Technology and Organic Synthesis in Aqueous Solutions Synthesis of nanoparticles	PO1, PO2, PO3

			Photochemical reduction of CO_2	
4	VHD Lab (LDA)	SGI Cluster, HPC; High Speed Camera; PIV; UVP	Molecular Simulations, Process Simulations, Solar Thermal Systems, Energy Engineering Environmental Engineering	PO1, PO2, PO3
5	PRG Lab (G-109)	Ultrasound bath; Ultrasound Horn; Distillation unit; Hexagonal ultrasonic flow cell; COD set-up; Sieve Shaker; Spray dryer; Microwave oven; Ultrafiltration unit	Sonochemistry Hydrodynamic Cavitation waste water treatment process intensification enzymatic reactions depolymerisation	PO1, PO2, PO3, PO4
6	AML Lab	GC; HPLC; Ultrafiltration; Chromatography; CAD tools	Bioenergy, Biofuels and biomass to other chemicals Purification of Proteins, nucleic acids & other biomolecules, natural & synthetic APIs high value organic/inorganic chemicals Continuous chromatography, Modeling & Adsorptive separations Biocatalysis & Bio transformations Bioreactor design, Mixing & dynamics of solid- liquid fluidized bed Dynamics of gas-solid circulating fluidized bed Process integration & intensification Process development, characterization & scale up.	PO1, PO2, PO3, PO4
7	KVM Lab (G-109)	pH meter; Ozoniser; Photochemical reactor; Membranes;	Membrane separations, Effluent treatment Membrane Bioreactor, Electrochemical Membrane Bioreactor	PO1, PO3, PO4

		Dead end Filtration set-up; Bio electrochemical membrane reactor; Membrane bioreactor	Sustainability Assessment, Lifecycle Assessment Hydrometallurgical Extraction, Corrosion Development of new materials, Metal composite	
8	CSM Lab (LDA)	SGI Cluster, HPC High Speed Camera; PIV; UVP;	Computational and experimental Fluid Dynamics, Transport Phenomena, Design of Multiphase Reactors, Bioreactor Design Process modelling and Simulation	PO1, PO2, PO3
9	PRN Lab (Basement 007)	Furnace; Reactor; Centrifuge; Oven; Autoclave; GC	Membrane separation processes, Advanced construction materials, Sustainability engineering, valuable products from industrial wastes. catalysis	PO1, PO2, PO3
10	ABP Lab	HPLC; Total organic content; Ozonator; Autoclave; Ultrasound bath; Ultrasound Horn; Rota Evaporator; Incubator; Oven; Centrifuge; Hydrodynamic set-up; Gas Chromatography	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 Biotechnology: Protein modification Cell disruption, Synthesis of Nanomaterials Microbial Fuel Cell	PO1, PO2, PO3, PO4
11	AVP Lab	Furnace (1800 C); Hydraulic Press; Ultrasound bath; Rota evaporator; Incubator; Oven;	Membrane separation (separation and recovery of organic chemicals and metals from organic and aqueous streams; pollution control;	PO1, PO2, PO3

		Membrane filtration set-up	development of ceramic membranes) Green Technology (ionic liquids for solvent extraction and reactions; value-added chemicals from non-edible oils; greener organic chemical process development) Bioprocess Technology (synthesis of chemicals and microbial colorants / pigments)	
12	AWP Lab (C-106)	High performance Computing 160 core; 256 GB RAM, 32 TB storage; ARIC	Membrane Separations Computational Fluid Dynamics Transport Phenomena Multiphase Reactors Mixing	PO1, PO2, PO3, PO4
13	VKR Lab (G-109, Basement 005)	HPLC; UV Spectrophotometer; Supercritical extractor; Microwave extractor Cold Centrifuge; Ultrasound Bath; Ultrasound Horn	Extraction & purification of natural ingredients Biocatalysis/Enzyme Catalysis Nanotechnology Biodiesel Waste water Catalysis (Heterogeneous)	PO1, PO2, PO3, PO4
14	PDV Lab (HP Lab, Basement 006)	Stirred Reactor; Autoclave Reactor; Sea Water Pond; High & low pressure VLE; Trickel Bed Reactor; PH meter; BOD incubator; COD apparatus; CO_2 Titrator; Gas chromotography	CO_2 capture & Utilization Wet air oxidation Hydrogenation Steam reforming Hydrotreatment Bio oil/ Bio fuel	PO1, PO2, PO3, PO4
15	BNT Lab (ADL)	Freeze Dryer; Hot Air Dryer; Microwave Dryer; Heat Pump Dryer; Vacuum Dryer; Spray Dryer; Moisture Analyser; HPLC; Laminar Air flow; Fluidized Bed Dryer; Autocave;	Indian Cottage cheese Dehydration Modelling Simulation & Exergy study of Dryer Alternative Binder for coke briquetter Filteration of waste activated sludge Validation of solar conduction dryer	PO1, PO2, PO3, PO4

		Powder Flow Tester Texture Analyser	Fish dehydration from viewpoint of product Quality Making Jaggery in powder form & upscale process To establish a Green Method for clarification & isolation of stevia glycoside	
16	RDJ Lab (BCL)	Rota Evaporator; Autoclave; Dissolution Apparatus I & II USP; Mini Water Bath; High Pressure Homogenizer; SDS-PAGE Electrophoresis; Freezer 4° C; Deep Freezer -20° C and -40° C; Cooling Centrifuge; Zetasizer; Imaging Flow Cytometer; Class II Biosafety Cabinet; Inverted Microscope; Cell Culture Incubator; HPLC System; Automated Cell Counter; Ultra turrax; 10 Point Magnetic Stirrer; Desiccator	Modification & Characterization of Biodegradable Polymers Molecular imaging Synthesis of polymeric & metallic nanoparticles Pharmaceutical Formulation Development	PO1, PO2, PO3
17	Polymer Processing Lab	Twin Screw Extruder; Injection Moulding Machine; Compression Testing Machine; Blow Moulding Machine; Rotational Moulding Machine; Plastic Granules Mixing Machine; Hot Air oven	Extruding, moulding, and compressing various polymer components to study their plastic and material properties to make failure and deformation predictions.	PO1, PO2, PO3

18	Testing Lab	Metflow Index Tesing Equipment; Impact Test Equipment Comp Izod Impact Tester; HDT/VST Apparatus; Hardness Testing Equipment; Universal Testing Machine	Testing and indexing various components of various materials to identify plastic properties such as hardness, elasticity and creep etc.	PO1, PO2, PO3
19	CAD/CAM Lab	Altair Hyperworks CAE; Minitab 18; NX Unigraphics; Moldex 3D	Modelling and simulating various theoretical and practical machining components and to check feasibility/compatibility of various components with one another.	PO1, PO2, PO3
20	Electronics and Electrical Lab	Transformer X 2; Induction Motor/Generator coupled with DC shunt X 2; Cathode Ray Oscilloscope; Synchronous Machine and DC Machine	To study various drives used in the industry and calculate various efficiency parameters of electrical equipment's such as power factor, mechanical efficiency. Study of different kinds of waveforms and signals in electronics circuits.	PO1, PO2, PO3

5.2 Research facilities/Centre of excellence (30) **Institute Marks (30)**

Sr. No	Name of the Facility	Specialized Equipment Name	Equipment details	Utilization details from the perspective of PO attainment
1	Central Computational Facility	Computational cluster (160 nodes)	Computational analysis, molecular dynamics, reactor designs	PO3, PO4
2	Analytical Instrumentation Laboratory	Gas Chromatography; Extractive Gas Chromatography; High Pressure Liquid Chromatography x 4	Thermo Scientific Trace 1310; Thermo Scientific Trace 1310; Thermo Scientific Ultimate 3000	PO1, PO3
3	X-Ray Photoelectric Spectroscopy Lab	Sorptometer; Protein Characterization System;	BET 201-A Beckman Coulter XL-I	PO1, PO3

		X-Ray Photoelectric Spectroscope	Kratos Analytical Axis Supra	
4	Gas Chromatography Lab	Pharmaceutical Analysis System; Gas Chromatography; High Pressure Liquid Chromatography x 2	Chemito GC8610. Beckman Coulter PA 800 Plus; Thermo Scientific Trace 1310; Thermo Scientific Ultimate 3000	PO1, PO3
5	UGC Networking Lab	Fourier-transform infrared spectroscopy; Particle Size Analyzer; Mass Spectrometer; Laser Particle Analyzer; Centrifuge; Fourier-transform infrared spectroscopy; XID; Transmission electron microscopy	Vertex 80V; Coulter LS230; Thermo Scientific Trace 1300; Bettersizer 2600 Beckman Coulter Optima MAX-XP Perkin Elmer Bruker D8 Advance JEOL JEM 2100	PO1, PO2, PO3
6	Advanced Laboratory	Vapour Phase Reactor; Autoclave x 4; Rota Vaporizer; Bench Top Fixed Bed Flow Reactor; Tubular Furnace	Amar Equipment's PVT Ltd. custom build setup; Amar B(F); Heidolph Hei-Vap Value Digital; BEEM (Custom); Ants Pro-Sys	PO1, PO2, PO3, P4

5.3 Access to laboratory facilities, training in the use of equipment (15)

Institute Marks (15)

Lab/Facility	Instrument	Details of instrument	Training/Service given by	Year
Process Control lab - Chemical Engineering Laboratory	High-Pressure Liquid Chromatography	Ultimate 300 with variable wavelength distribution	Thermo scientific	2019
Process Control lab - Chemical Engineering Laboratory	UV-Spectrophotometer	LMSP – UV 1900	Labman	2019
Process Control lab - Chemical	Yokogawa Process Simulator	Pilot plant	Renew Instruments	2019

Engineering Laboratory				
Process Control lab - Chemical Engineering Laboratory	Karl Fischer Titrator	80-630	Athena	2019
Process Control lab - Chemical Engineering Laboratory	Densitometer	DMA 501	Anton Paar	2019
Heat lab - Chemical Engineering Laboratory	Hot Water Generator	AMW 02/678	Thermax	2020
Chemical Engineering Department	Safety training	PPE products, fire extinguisher	Mr. V.R. Marathe, Dr. Swayajith Sahadevan, Dr. P. T. Gadekar, Mr. Nilesh Vani	2019
Chemical Engineering Department	Safety training	PPE products, fire extinguisher	Dow Chemicals	2020

6 CONTINUOUS IMPROVEMENT (75) Institute Marks (75)

6.1 Actions taken based on the results of evaluation of each of the POs (25)

Institute Marks (25)

Being one of the most sought out programs for chemical engineering in India, the students are expected to do extremely well throughout their curriculum and professional life after studies. Therefore, we keep the target value for the PO attainment levels reasonably high, which is 75-80%. However, thanks to our students, alumni, employers, and our own continuous efforts, we have exceeded the target values by a healthy margin. Nevertheless, we still feel that there is always a scope for improvement and we are actively committed to upgrades and improvements.

Measures taken based on the overall PO Attainment for the years 2017, 2018, 2019, 2020

PO	**Target Value**	**PO Attainment (2017, 2018, 2019, 2020)**	**Observation**
PO1: An ability to independently carry out research /investigation and development work to solve practical problems			
PO1	75-80%	88.75, 92.40, 87.96, 88.34%	PO1 attainment is successful.
Action Taken: This particular PO emphasizes enrichment in research and development abilities. The successful attainment of this PO is attributed to the introduction of new courses on Research Methodology and Chemical Safety and Risk Management, along with the in-plant training for better interaction with the industry. Acquiring and upgrading modern equipment in the chemical engineering lab and other corresponding labs has also substantially helped attain this PO. Our efforts are directed towards maintaining and improving this performance.			
PO2: An ability to write and present a substantial technical report/document			
PO2	75-80%	88.1, 92.52, 86.98, 88.17%	PO2 attainment is successful.
Action Taken: This PO focuses a lot on writing and presentation skills. This PO is successfully attained because of the continuous evaluation of our students through Research I, Research II, Seminar & Critical Review, In-plant Training, and Thesis and Viva Voce. The students must submit the reports for each of the aforementioned components and present their work in front of the examiners. We added two more laboratory courses, namely, Chemical Engineering Laboratory and Process Simulation and Modelling Laboratory, where students write substantial reports in terms of journal writing and present their work via Viva examinations.			

PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program			
PO3	75-80%	88.16, 92.30, 87.24, 88.10%	PO3 attainment is successful.
Action Taken: The students are expected to be masters of their corresponding bachelor's program through this PO. All of our core subjects capitalize on the knowledge learned in bachelor's program and offer additional knowledge on the already learned concepts. Moreover, our students apply these concepts immediately in their research work which promotes self-learning and learning beyond the defined syllabi. In-plant training and modernization of the chemical engineering lab and other corresponding labs have also helped students to obtain hands-on experience with the equipment and apply the classroom theories in practice. Eventually, this has resulted in students acquiring mastery over the subject and successfully achieving this PO.			
PO4: Students should be able to apply as a researcher or entrepreneur the social and environmental awareness of chemical engineering and cope up with futuristic technologies which will lead chemical engineering towards sustainability.			
PO4	75-80%	87.67,92.07, 86.57, 88.20%	PO4 attainment is successful.
Action Taken: This PO covers broad areas related to chemical engineering and is mainly based on applications and future challenges. Our students are preferred by the companies in the campus placement, which explains the outcome of this PO. We equip our students with the tools that make our students future-ready so that they thrive in whatever role they choose to do, be it research, academics, industry, or self-employment. We have also introduced a new course on Life Cycle Analysis in 2019, which focuses on sustainability and environmental impacts of a product through its life cycle, such as processing of the raw materials, manufacturing, distribution, use, recycling, and final disposal.			

6.2 Improvement in Quality of Projects (10) Institute Marks (10)

Research is a major component of our Master of Chemical Engineering program. The students get started with a flavour of research in their first year of masters and then move entirely into research in the second year. A significant component of their research is thus to understand the purpose of research, resources required for literature survey, methods and tools used in research, design of experiments, data analysis and interpretation, writing and presenting the research work, etc. Keeping all this in mind, we have added a new subject on Research Methodology which deals with the components mentioned above. Safety is of paramount importance to us. We want to make sure that the students are aware of the chemical hazards of working in research laboratories or industrial environments. Therefore, another subject we have added is Chemical Safety and Risk Management. The subject deals with statutory regulations, flammability limits, limiting oxygen concentration, material hazards, material safety data sheets, safety devices, HAZOP and HAZAN analysis, cause and consequence analysis, fault tree analysis, and risk identification and assessment techniques. Both of these two added subjects contribute heavily to improving the quality of student projects.

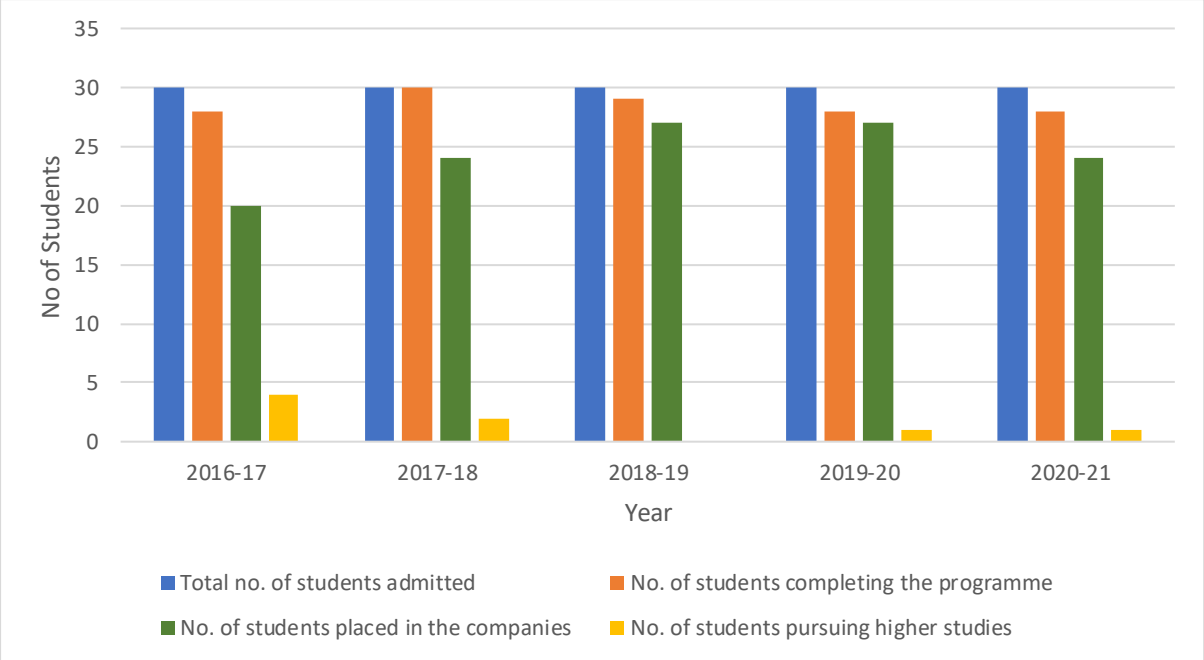
To improvise further, an Orientation Course from each faculty is made mandatory. Each of the faculty members interacts with the students on their research interests and the available projects. This activity enables students to choose the projects based on their area of interest, which ultimately improves the quality of student projects. The student research performance is evaluated throughout semesters I to IV. In semester I, the students perform a literature survey through Research I and Seminar and Critical Review on their respective research projects and any other topic given by other faculty members. The students also have to critically review one research article provided by the individual faculty. In Semester II, students continue their project work through Research II, where along with the literature survey, they start planning and performing the preliminary experiments. In Semester III, students go for industrial internship for up to six months, where they learn the industrial practices and gain practical knowledge relevant to the classroom teaching. In Semester IV, the students concentrate entirely on their respective research projects, followed by thesis submission. The thesis evaluation methodology is also now elaborate. Earlier it was only thesis submission and evaluation. Now, there is a draft thesis submission, followed by examiner comments, followed by open defense, then final thesis submission after all the corrections based on examiner comments. The premium access to iThenticate and Grammarly is provided to respective faculties and students to further improve the report authenticity and linguistic skills.

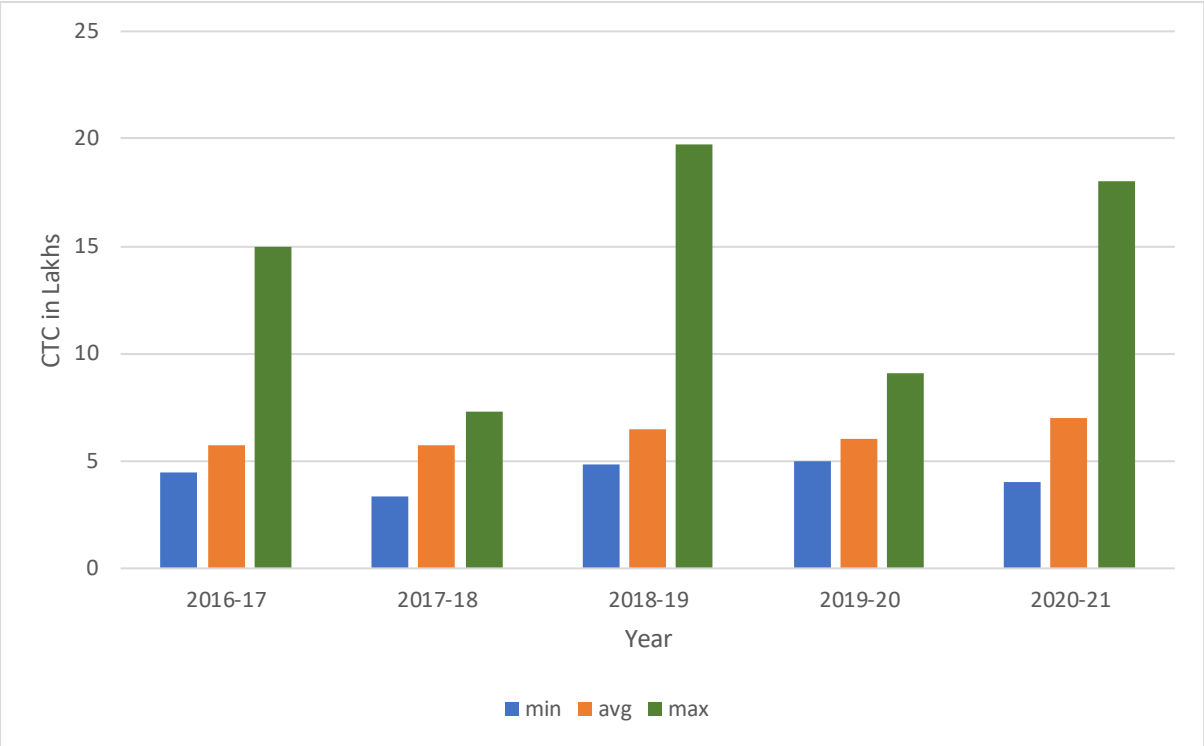
6.3 Improvement in Placement, Higher Studies and Entrepreneurship (10)

Institute Marks (10)

Our placement record is improving year over year, and the number of students getting placed through campus is almost the number of students completing their studies. Also, the average and minimum salaries received by the students through campus placement have also increased throughout the years. The year 2019-20 represents a marginal decrease in average salary which can be attributed to the ongoing COVID-19 pandemic where companies really weren't looking to recruit new candidates. However, on the bright side, we still managed to place almost every student in 2019-20. Further, the average salaries also bounced back to better than the pre-covid era during the year 2020-21. This is a testament to our outstanding Master of Chemical Engineering programme that the companies are always looking to hire our students even in this period of crisis.

Item	2020-21	2019-20	2018-19	2017-18	2016-17
Total No of students admitted	30	30	30	30	30
No of students placed in the companies	24	27	27	24	20
No. of students pursuing higher studies	1	1	0	2	4
No of students turned entrepreneur	0	0	0	0	0



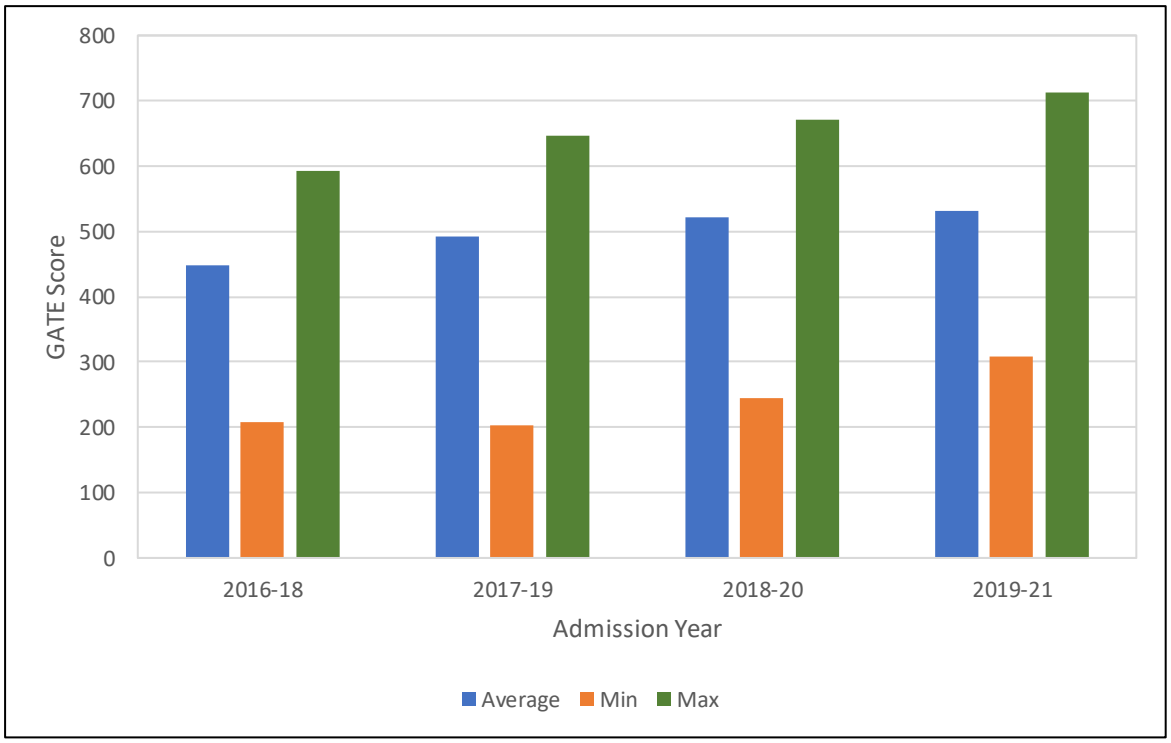

25
20
15
10
5
0
CTC in Lakhs
2016-17
2017-18
2018-19
2019-20
2020-21
Year
min
avg
max

6.4 Improvement in the quality of students admitted to the program (10)

Institute Marks (10)

An improvement in the average, minimum, and maximum GATE score can be seen for our admitted students. As mentioned in point 6.3, better quality students get attracted to our engineering programs. One of the reasons students choose our Master of Chemical Engineering programme is because of our exemplary placement record. The students prefer ICT and our Master of Chemical Engineering programme because of the higher chance of getting the placement. Additionally, our faculty deliver lectures nationally and internationally in various institutions/conferences/seminars where they promote the institute and its offered courses that help attract better-quality students. The institute now has a media cell that regularly promotes ICT as a brand and its programmes through social media options such as Facebook, Twitter, etc. All of this has propelled our Master of Chemical Engineering programme to the regions far and wide in the country.

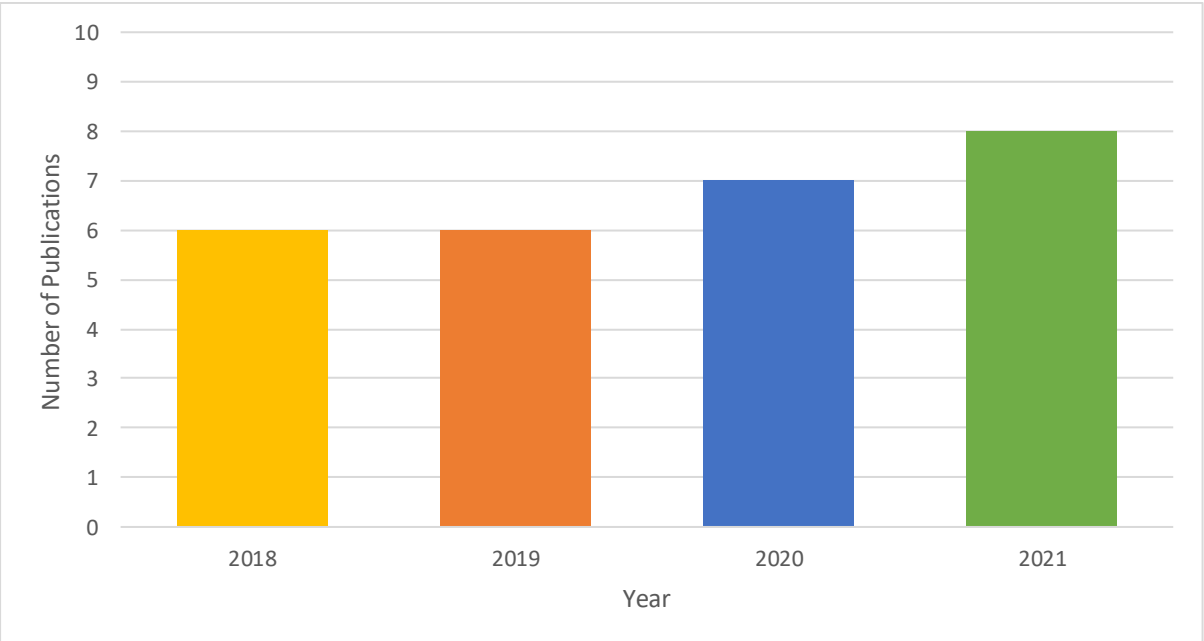
Gate Score	2020-21 (CAY)	2019-20 (CAYm1)	2018-19(CAYm2)
Highest Score	661.00	712.00	671.00
Minimum Score	322.00	308.00	244.00



6.5 Improvement in quality of paper publication (10) Institute Marks (10)

As mentioned in Section 6.3, since the placement part is sorted, students focus more on their research and deliver the best they can in terms of research outcome, reflecting in more and better research publications. In addition to that, students are encouraged to participate in technical events such as VORTEX, Exergy, Manzar (Modern Day Industrialist), Bombay Technologist, AZeotropy, 1M Ideate, etc., where they expand their horizons by delivering oral and poster presentations. The premium access to iThenticate and Grammarly is provided to faculties and students to further improve the report authenticity and linguistic skills. Research is a major component of our Master of Chemical Engineering program. The students get started with a flavour of research in their first year of masters and then move entirely into research in the second year. A significant component of their research is thus to understand the purpose of research, resources required for literature survey, methods and tools used in research, design of experiments, data analysis and interpretation, writing and presenting the research work, etc. Keeping all this in mind, we have added a new subject on Research Methodology which deals with the components mentioned above. As can be seen from the figures below, we are publishing more in 2020 and 2021 than in the previous years.

Year	Publications
2018	6
2019	6
2020	7
2021	8



6.6 Improvement in laboratories (10) Institute Marks (10)

As a part of our laboratory improvement exercise, we procure new and advanced equipment on a regular basis. The students get benefitted from such acquirements, which reflects in their research output in terms of quality of research projects and research article publications as mentioned in Sections 6.2 and 6.5, respectively.

Sr. No.	Description	Model	Fund	Year
1	Water purification system	Sartorius: arium mini	Prof. S. B. Chandalia Endowment	2017
2	Ion chromatography	Dionex 5000+	CE/Fireclaim	2017
3	HPLC-VWD	Themo: Ultimate 3000	CE/Fireclaim	2017
4	HPLC-DAD	Themo: Ultimate 3000	CE/Fireclaim	2017
5	HPLC-RI	Themo: Ultimate 3000	CE/Fireclaim	2017
6	Microspin centrifuge	Eltek TC 4815D	Chem. Engg. /General fund	2018
7	UV-Visible spectrophotometer	Labman: LMSP UV-1900	B.Chem Engg. 1968 Batch donation fund	2018
8	HPLC-VWD	Themo: Ultimate 3000	B.Chem Engg. 1968 Batch donation fund	2018
9	Orbital shaker incubator	Athena: Galaxy 1NCS	B.Chem Engg. 1968 Batch donation fund	2018
10	Density meter	Anton paar: DMA 501	B.Chem Engg. 1968 Batch donation fund	2018
11	Ultrasonic bath	Dakshin 6.5L 200DF	B.Chem Engg. 1968 Batch donation fund	2018
12	KF titrator	Athena AT-630	B.Chem Engg. 1968 Batch donation fund	2018
13	Plate heat exchanger	Alfa laval M3-FG	B.Chem Engg. 1968 Batch donation fund	2019
14	Stirred tank reactor	Fabex Engineer	B.Chem Engg. 1968 Batch donation fund	2019
15	Hot water generator	Thermax, AMW-02	B.Chem Engg. 1968 Batch donation fund	2019
16	Laser partical size analyser	Bettersizer 2600	CE/UGC-CAS/ Contingency	2019
17	DI water sysytem	PALL CASCADA ll 10L/H	UGC-CAS/Phase-5	2019
18	UV-Visible spectrophotometer	Shimadzu UV-1900	TEQUIP	2019

19	High resolution mass spectroscopy	Thermo Fischer	ICT/IOCL	2019
20	X-ray Photoelectron spectrometer	Kratos Axis Supra	ICT/IOCL	2019
21	Inductively coupled plasma-MS	Thermo iCAP RQ	ICT/IOCL	2020

Further, all the laboratories are equipped with the necessary infrastructure, which gets refurbished as per the requirements and improvement needed in terms of efficiency and safety.

1. Provided adequate ventilation in most of the laboratories.
2. All the chemicals are kept in the packed cupboard to avoid hazards from chemical spillage.
3. Fume hoods are installed in laboratories to mitigate hazardous fumes.
4. Air conditions are provided wherever required.
5. Daily floor cleaning of every laboratory is mandatory.
6. Empty bottles of chemicals are properly disposed of every month.
7. Safety equipment is provided in every laboratory.
8. Eye washers and showers are installed in every laboratory at easily accessible points.
9. Fire extinguishers and First Aid Box are made available in all the laboratories.
10. Restricted access to some labs with specialized equipment/instruments is made mandatory.
11. All the labs are provided information in the form of stickers about where to go and whom to call in case of emergency.

In addition to that, the department has started organizing safety training. In this, the experts from various industries visit the department and conduct training in terms of lectures, exhibitions, demonstrations, and hands-on for personal protection equipment. The details of such activities are provided in the table below. We could not conduct safety training in year 2021 due to the COVID 19 pandemic since such events invite a mass gathering of staff members and students.

Lab/Facility	**Training type**	**Details of training**	**Training/Service given by**	**Year**
Chemical Engineering Department	Safety training	PPE products, fire extinguishers	Mr. V.R. Marathe, Dr. Swayajith Sahadevan, Dr. P. T. Gadekar, Mr. Nilesh Vani	2019

Chemical Engineering Department	Safety training	PPE products, fire extinguishers	Dow Chemicals	2020

Annexure I

PROGRAM OUTCOMES (PCs)

P01 : An ability to independently carry out research /investigation and development work to solve practical problems

P02 : An ability to write and present a substantial technical report/document

P03 : Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program

Declaration

The head of the institution needs to make a declaration as per the format given -

- I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines inforce as on date and the institutes hall fully abide by them.
- It is submitted that information provided in this Self Assessment Report is factually correct.
- I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA. In case, any false statement information is observed during pre-visit, visit, postvisit and subsequent to grant of accreditation.

Head of the Institute
Name: Professor A. B. Pandit
Designation: Vice-chancellor
Signature:

Seal of the Institution:

Place: Mumbai
Date: 28-12-2021