



Shri Vile Parle Kelvani Mandal's
**Dwarkadas J. Sanghvi
College of Engineering**



Approved by AICTE, New Delhi and Affiliated to the University of Mumbai

MECHEXEL

Academic Report of the Department of Mechanical Engineering
(2015 - 2016)



Editors:

Dr K N Vijay Kumar

P Frank Crasta

Dharam V. Ranka

INDEX

Sr. No.	Content	Page no.
1	About the Department	4
2	Administration	5
3	Student Chapters	9
4	Result Analysis	20
5	Student Achievements	22
6	Publications and Presentations of the Faculty Members	24
7	Contribution of the Faculty	25

DEPARTMENT OF MECHANICAL ENGINEERING

Vision:

To create academic excellence by developing competent mechanical engineers, capable of facing global challenges, with human values and skills for research and sustainable development.

Mission:

1. To impart fundamental concepts of basic sciences and allied areas of engineering and technology.
2. To enable students, to develop into competent engineering professionals.
3. To promote research activities.
4. To promote interaction and involvement with professional bodies and industries
5. To inculcate soft skills and professional ethics and mold students as socially responsible citizens.
6. To promote exposure to green technology for sustainable growth and development.

Program Educational Objectives (PEO's):

1. To prepare students with a sound engineering knowledge and a multi-disciplinary approach.
2. To enable students, to innovate, design and develop engineering systems using modern engineering practices and tools.
3. To motivate students, to interact with industry and professional bodies and participate in various professional activities.
4. To develop logical approach, analytical thinking and problem solving capabilities in students & facilitate them to undertake research/project work.
5. To impart training in soft skills and value education.

Program Specific Outcomes (PSO's):

1. Students will acquire analytical and application skills, specifically in areas of mechanical design, thermal engineering and manufacturing systems.
2. Students will be able to explore various methodologies & software and select appropriate process to bring about improvements.
3. Students will acquire soft skills, value education and competency in pursuing higher studies and finally lead a professional career while working in a global environment.
4. Students will be exposed to green technology and develop inter-disciplinary skills in mechanical systems.

1. About the Department:

- Department of Mechanical Engineering instituted in the year 2011 with undergraduate (BE) and post graduate (ME) programmes affiliated to the University of Mumbai.
- The department has Ph D (Technology) programme since 2013, which is affiliated to the University of Mumbai.
- Intake BE : 120, ME:18, Ph D : 10
- The department runs four professional student chapters viz. SAE, ISME, ISHRAE and RAS which help to enhance the skills of the student and also to add value in the process of acquiring knowledge.

2. ADMINISTRATION

Dr. K N. Vijay Kumar
Professor & Head

Teaching Staff

Prof. Prasad Shirodkar
Assistant Professor

Prof. Vyankatesh Bagal
Assistant Professor

Prof. Rajnarayan Yadav
Assistant Professor

Prof. P Frank Crasta
Assistant Professor

Prof. Dhaval Birajdar
Assistant Professor

Prof. Prashant R Patankar
Assistant Professor

Prof. Rohit Chaurasia
Assistant Professor

Prof. Vinit Katira
Assistant Professor

Prof. Ranjeet Gupta
Assistant Professor

Prof. Ramesh R Rajguru
Assistant Professor

Prof. Pawan Rayar
Assistant Professor

Prof, Bronin Cyriac
Assistant Professor

Prof. Greegory Mathew
Assistant Professor

Prof. Shreya Kadwadkar
Assistant Professor

Prof. Karthik Ajugia
Assistant Professor

Prof. Dharam Ranka
Assistant Professor

Prof. Jayshri Gadkar Raut
Assistant Professor

Prof. Saurabh Vichare
Assistant Professor

Prof. Aditya Jawlekar
Assistant Professor

Prof. Sachin Kamble
Assistant Professor

Prof. Adnan Shaikh
Assistant Professor

Visiting Faculty

Dr. Dinesh Hegde,
Retd. Dean, NITIE

Prof. S. Satalkar

Prof. Sonal Dhar

Non-Teaching Staff

Mrs. Vaishali Joshi

Mr S Mohite

Lab. Assistant

Lab. Attender

Committees

SAE

Prof. Rajnarayan Yadav

Prof. Vinit Katira
Prof. Saurabh Vichare

ISME

Prof. P Frank Crasta

Prof. Rohit Chaurasia
Prof. Aditya Jawlekar

ISHRAE

Prof. Vyankatesh Bagal

Prof. Dhaval Birajdar

RAS

Prof. Pawan Rayar

Project Committee

Prof. Vinit Katira

Prof. Prashant Patankar

NBA Committee

Prof. Prashant Patankar-PCo

Prof. Rajnarayan Yadav

Time-Table Committee

Prof. Vyankatesh Bagal

Prof. Rohit Chaurasia

Placement Coordinator

Prof. Dhaval Birajdar

Exam Coordinator

Prof. Dhaval Birajdar

Prof. Ranjeet Gupta

U. G. Coordinator

Prof. Bronin Cyriac

P. G. Coordinator

Prof. Greegory Mathew

Ph D Coordinator

Prof. P Frank Crasta

F. E. Coordinator

Prof. Prasad Shirodkar

Departmental Library Committee

Prof. Ranjeet Gupta

Cultural Committee

Prof. Shreya Kadwadkar

Prof. Adnan Shaikh

Sports Committee

Prof. Aditya Jawlekar

Alumni Coordinator:

Prof. Dharam Ranka

Class Teachers/Mentors :

SE A Division : Prof. Ranjeet Gupta

Prof. Karthik Ajugia

SE B Division : Prof. Ramesh R Rajguru

Prof. Sachin Kamble

TE A Division : Prof. Aditya Jawlekar

Prof. Bronin Cyriac

TE B Division : Prof. Jayshree Gadkar

Prof. Pawan Rayar

BE A Division: Prof. Shreya Kadwadkar

Prof. Adnan Shaikh

BE B Division: Prof. Saurabh Vichare

Prof. Greegory Mathew

3. STUDENT CHAPTERS

3.1 Society of Automotive Engineers (SAE)

This student chapter was the very first one started in the Mechanical Department and has gone on to become one of largest student chapter in D.J. Sanghvi College of Engineering in terms of the number of students from Mechanical and Production Engineering inducted in the chapter every year. This being just the third year of the SAE chapter in the college, the organizing committee has managed to put-up numerous events which include competitions, guest lectures, workshops and value added programs.

1) Value Added Programs

- ✚ Solid Works Modeling Software Training conducted between July 2015 and December 2015 in premises of Mechanical Engineering Department, by CADD Centre Mumbai.
- ✚ German Language classes are being conducted in the premises of Mechanical Engineering Department, by Mrs. Ujwal Anil, a language consultant. The classes commenced in January 2016 and will end by July 2016.

2) Teams

➤ DJS Kronos

- ✚ Participated in BAJA Student India – National Level Off-road Racing Competition organized by Delta Inc. and sanctioned by FMSCI. It was held at the Buddh International Circuit, NOIDA in January 2016.
- ✚ Participated in BAJA SAE India – National Level Off-road Racing Competition organized by SAE India and Mahindra & Mahindra. It was held at the NATRAX Facility, Indore.



DJS Kronos ATV

Achievements

1. Maneuverability Event- **1st** Position
2. Weight Pull Event - **4th** Position
3. Overall- **8th** Position

➤ DJS Skylark

- ✚ Participated in SAE International AERO Design East – International level RC Aircraft design competition organized by SAE International. It was held in Fort Worth, Texas, USA in March 2016.

Achievements

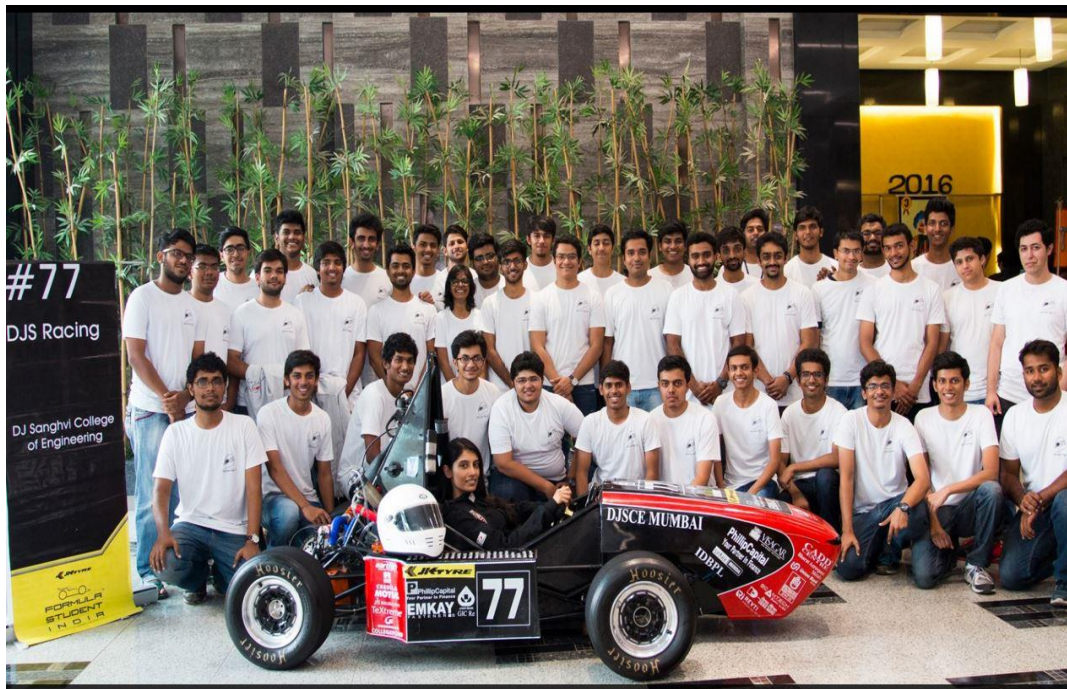
1. Oral Presentation- **3rd** Position (Regular Class)



DJS Skylark Team with Aeroplane Model

➤ DJS Racing

- ✚ Participated in Formula Student India- National level Race car Design competition organized by Delta Inc. and sanctioned by FMSCI. It was held at the Buddh International Circuit, Noida in January 2016.



DJS Racing Car

Achievements

- ✚ Cost Event- **2nd** Position
- ✚ Design Event- **4th** Position
- ✚ Overall- **6th** Position

➤ DJS Helios

A prototype of solar car has been designed and manufactured during December 2015 and April 2016. Subsequently a solar car will be manufactured and competing in the event ESVC (Electric Solar Vehicle Competition) to be held in March 2017.



DJS Helios Solar Car

3) Guest Lectures

- ✚ An invited talk on “Project Based Learning” on 4th February, 2016 by Dr. Sandeep Inamdar (Managing Trustee, Vishwaniketan)
- ✚ An invited talk on “Introduction to Oil, Gas and Power Sector” on 22nd March, 2016 by Mr Vasant Dinkar Mestry (Chairman and MD, Suvidya Institute of Technology).

4) Competitions

- ✚ A competition on Clay Car modeling was organized on 24th August, 2015. It was judged by Prof. E. Narayanan, Mentor, Production Dept.

3.2 Indian Society Of Manufacturing Engineers (ISME)

ISME deals with manufacturing sector which is regarded as most integral part of any industry. ISME aims at advancing knowledge in the field of manufacturing engineering and management and providing means and methods for applying such knowledge in practice. In the very first year of ISME student chapter in DJ Sanghvi, the organizing committee managed to put of 11 events which comprises of – Value Added Programs, Industrial Visits, Workshops and Guest Lectures in a short span. And over the period of time, it has imparted knowledge to over more than 200 members comprising of students from both Mechanical & Production Engineering.

1) Value Added Program

- i) One day workshop on “Sheet Metal Forming” at M/s L & T Madh Island on 12th and 13th August 2015.

- ✚ 144 students of third year mechanical engineering students attended the workshop

- ✚ Practical sessions on press tools, design of press tools, sheet metal forming at L&T corporate training centre at Madh Island.

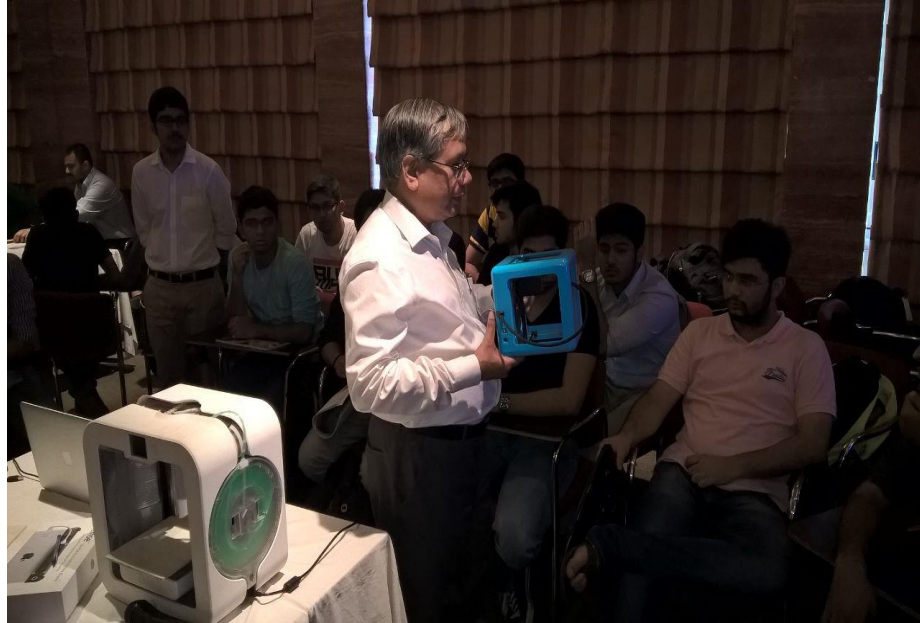
- ✚ Certificate programme.

- ii) Two day workshop on “Rapid Prototyping Tool-3D Printing” was conducted at our college by M/s Imaginarium, Mumbai on 16th and 17th March 2016.

The workshop was an interactive session between the highly knowledgeable Imaginarium professionals and the undergraduate students from Mechanical and Production departments.. Many 3D models were also circulated throughout the event for better understanding and visualization of the topic. It was concluded by Hands on experience session with the 3D printers and 3D scanners which helped students to learn the technique of 3D printing.

- ✚ No of students attended : 105

- ✚ Certificate Programme



3D Printing and 3D scanning workshop by Imaginarium

2) Industrial Visits

1. The students of Third Year Mechanical Engineering visited M/s Imaginarium, Andheri (E) on 5th and 6th October 2015.
2. The students of Second Year Mechanical Engineering have visited M/s Kela Industries Nasike on 18th March 2016

3) Seminar and Project Presentation

A seminar and project presentation, “Make in India: Igniting manufacturing Renaissance” was held on 31st March 2016 and 1st April 2016 under the aegis of ISME Mumbai chapter, Production Engineering Department and Mechanical Engineering Department. Eminent Professors and Industry experts shared their experiences in manufacturing engineering under the theme “Make in India”. An Inter-Collegiate project competition was also held, which exhibited technical projects of students B. E, M. E. and Ph D programmes.



ISME Seminar and Project Competition 2016

4) Guest Lectures

1. A guest lecture on “ERP applications” by Mr Sachin Dharap of M/s Ingenia polymers was conducted on 15th September 2015.
2. Mr Mukesh Jain, Pune, an Ex-Microsoft analyst delivered a guest lecture on “Business Analytics” on 1st February 2016 for the benefit of students of mechanical and production engineering students.



‘Business Analytics’ by Mr Mukesh Jain

3.3 Indian Society of Heating Refrigeration and Air Conditioning Engineers (ISHRAE)

This is a society aimed at advancement of the sciences of Heating, Refrigerating and Air Conditioning Engineering and related sciences. It imparts education in the fields of Air-Conditioning, Refrigeration and Allied Sciences by conducting training courses, workshops, seminars and by awarding diplomas or certificates. This student chapter was started in this academic year. Though it being a very young student chapter, has organized many events like seminars, industrial visits, technical visits and value added programs.

1) Value Added Program

Value added course on MATLAB was conducted from October 2015 to November 2015 in the college.

- + 17 students of Final year attended the course.
- + They were given a deep knowledge as to how mathematical concepts can be related to engineering problems and applied to the same using MATLAB.
- + Certified Programme

2) Event for Social Cause

An event named 'Car Rally for the Blind' was conducted on 24th January, 2016. The tagline of the rally was You Drive-We Navigate wherein the main purpose was the welfare of the visually impaired and education for the under-privileged children.

- + Under the aegis of National Associations of the Blind, the students of ISHRAE volunteered for the event.
- + The students were involved in food distribution & assisted in event management
- + The volunteers were honoured with a certificate by Mrs. Fadnavis



3) Seminar

A one-day invited talk was conducted on 10th February, 2016 on the topic 'Achieving Comfort Ventilation by combining Traditional Indian Practice and Modern T.

- ✚ The invited guest was Mr. Surendra H. Shah from Panasia Engineering Pvt Ltd
- ✚ The honourable speaker informed the students as to how various domestic methods can be used to conserve heat energy and used accordingly
- ✚ With the help of a reflective sheet, he practically demonstrated the mechanism of working of the silicon reflecting sheets.

3.4 Robotics and Automation Society (R.A.S)

R A S is an inter departmental society under the branch of Mechanical Engineering, this student chapter was one of the very recent and aimed to be largest student chapter in DJ Sanghvi College of Engineering in terms of number of students . Considering that RAS student chapter is among the youngest in D J Sanghvi, the organizing committee planned to conduct numerous events which include competitions, industrial visits, guest lectures, workshops and value added programs.

1) Competitions

1. Four students participated in a International Robotics competition named “IRC” (International Robotics Challenge) held at IIT Bombay organized by IIT Bombay. Our team qualified for rounds held at IIT Bombay where they competed with 30 teams came from various countries of Asia.
2. Our College Robotic Team consisting of 15 Members represented D J Sanghvi at “ROBOCON 2016” held in pune organized by Asia Pacific Broadcasting Union (ABU) .The competition saw participation from 100 plus colleges of India

2) Seminar and Guest Lecture

1. A guest lecture was conducted on the topic “REVERSE ENGINEERING” by Solid Vision M/s, Mumbai on 3rd and 4th of March 2016 which imparted a basic idea about Reverse engineering and 3D printing onto students.

4. RESULT ANALYSIS

S.E. Mechanical Engineering Sem -III December 2015

No.of Students Appeared	145
No.of students Passed(All Clear)	134
No. of Students Failed	11
1) First Class with distinction:- 7.75 & above	85
2) First Class (6.75 to 7.74)	45
4) Second Class (5.75 to 6.74)	13
5) Pass Class (5.74 & below)	2
All Clear Passing Percentage :-	92.41%

Top Rankers:

1.Mohammed Arsiwala	10.00
1.Borkar Parag	10.00
2.Choudhari Amit	9.92
3.Himmatramka Sakshi	9.83

T.E. Mechanical Engineering SEM – V December 2015

No.of Students Appeared :-	151
No. of Students Passed (All Clear) :-	144
No. of Students Failed :-	7
1) First Class with distinction (7.75 & above) :-	66
2) First Class (6.75 to 7.74) :-	55
4) Second Class (5.75 to 6.74) :-	20
5) Pass Class (5.74 & below) :-	3
All Clear Passing Percentage :-	95.36

Top Rankers:

1. Sanjay Kumar	9.78
2.Abhishek Deshmukh	9.63
3.Aniket Singh	9.26
3.Ankit Parikh	9.26

B.E. Mechanical Engineering Sem-VII December 2015

No. of Students Appeared :-	145
No. of Students Passed (All Clear):-	134
No. of Students Failed :-	11

1 O (9-10)	2
2 A (8-9)	26
3 B (7-8)	80
4 C (6-7)	25
5 D (5-6)	1
6 E (4-5)	

All Clear Passing Percentage :- **92.41%**

Top Rankers:

1. Janak Bhavsar	9.56
2. Pranoti Patkar	9.11
3. Arjun Dhall	8.96

5. STUDENT ACHIEVEMENTS

5.1 Cocurricular Activities:

- ✚ “Solar Energy a Viable Alternative: A Review” Punit Sanghavi, Chirag Pandya and Raj Hemani in ICAME2015 on 15th & 16th of October 2015,UCEV, Villupuram, Vol1, SNo 64, Paper ID- ICAME026.
- ✚ “Optimization of turning parameters for Glass Fibre Reinforced Plastic (GFRP/E) using Grey Relational Analysis coupled with Taguchi method” Kalpesh N. Tank, Mandar S. Rao, Rahil S. Sheth, UCEV, Villupuram, Vol1, SNo 64, Paper ID- ICAME026, October 2015.
- ✚ “A Review on Green Supply Chain Management in Automobile Industry” Punit Sanghavi, Yash Rana, Shridhar Shenoy and Rohit Yadav, International Journal of Current Engineering and Technology, Vol.5, No.6 (Dec 2015), E-ISSN 2277 – 4106, P-ISSN 2347 – 5161.
- ✚ Kalpesh Tank, secured 1st position for National Level Project Showcase 2016, Organised by Vidyavardhini's college of engineering and technology, Vasai, 1st April, 2016.
- ✚ Kalpesh Tank, secured 1st position for IET - Karamveer Expo' 16, Organised by K.K. Wagh Inst. Of Engg. Edu. & Research, Nashik, jointly sponsored by L&T and Powerica, March, 18-19, 2016
- ✚ Rushabh Sadiwala, completed certified courses on Material Science and 3D – Dynamics by Coursera, Feb-16.

5.2 Extra-Curricular Activities

N.S.S.

- ✚ Saurabh Jain of second year served as Co-committee member.
- ✚ 30 students from the department donated the blood for Blood donation drive

- ✚ 13 students from the department participated for Tree Plantation Drive.
- ✚ 8 students from the department visited to orphanage
- ✚ 6 students from the department for actively worked for fund raising
- ✚ 12 students from the department worked for Newspaper collection drive

Trinity

- ✚ Akshay Mokashe from third year served as Vice Chairperson (HR)
- ✚ Sharmad Anaokar from third year served as Technical Secretary
- ✚ Saquib Patwegar from third year served as Tech and Events HOD
- ✚ Harshraj Surve from third year served as Inter department Head
- ✚ Nimai Jain from third year served as Marketing Head
- ✚ Chintan Soni from third year served as Sports Head
- ✚ Amey Patel from third year served as Tech and Events Head

6. PUBLICATIONS AND PRESENTATIONS OF THE FACULTY MEMBERS

Name of the faculty	Details
Ramesh Rajguru	<p>1)“Solar Energy a Viable Alternative: A Review” Punit Sanghavi, Chirag Pandya and Raj Hemani, Ramesh Rajguru in ICAME2015 on 15th & 16th of October 2015,UCEV, Villupuram, Vol1, SNo 64, Paper ID- ICAME026.</p> <p>2)“Optimization of turning parameters for Glass Fibre Reinforced Plastic (GFRP/E) using Grey Relational Analysis coupled with Taguchi method” Ramesh R. Rajguru, Kalpesh N. Tank, Mandar S. Rao, Rahil S. Sheth, UCEV, Villupuram, Vol1, SNo 64, Paper ID- ICAME026, October 2015.</p> <p>3)“A Review on Green Supply Chain Management in Automobile Industry” Punit Sanghavi, Yash Rana, Shridhar Shenoy Rohit Yadav,Ramesh Rajguru, International Journal of Current Engineering and Technology, Vol.5, No.6 (Dec 2015), E-ISSN 2277 – 4106, P-ISSN 2347 – 5161.</p>
Bronin Cyriac	<p>1)Bronin Cyriac, M.D. Nadar, A.G. Shaligram, “<i>Effect of operating parameters on the performance of fin and tube gas cooler for trans-critical operation of CO₂ heat pumps</i>”, 2nd International Conference on Science, Technology and Management (ICSTM-15), ISBN: 978-81-931039-6-8 , University of Delhi (DU), Conference Centre, New Delhi, September,2015.</p> <p>2)Bronin Cyriac, M.D. Nadar, A.G. Shaligram, “<i>Effect of operating parameters on the performance of fin and tube gas cooler for trans-critical operation of CO₂ heat pumps</i>”, International Journal of Advanced Technology in Engineering and Science (ISSN: 2348-7550), Volume No 03, Special Issue No. 01, September 2015</p>

7. CONTRIBUTION OF THE FACULTY

Sr no	Name	Workshop /seminar/FDP/STTP/guest lecture details
1	Prof. Vyankatesh Bagal	Delivered guest lecture on kinematics of fluid flow at Universal College of Engineering on 1 st October 2015.
2	Prof. P. Frank Crasta	1) Participated in one day workshop on press tools conducted by M/S L&T Madh Island on 13 th July 2015. 2) Participated in FDP conducted by R.J.I.T Andheri West on recent trends in manufacturing practices from 29 th June 2015 to 3 rd July 2015.
3	Prof. Ramesh Rajguru	Attended one week Faculty Development Program on “Digital Prototyping for Product Design” from 6 th to 10 th July, 2015 in Pillai Institute of Information Technology, New Panvel
5	Prof. Prashant Patankar	Participated in AICTE approved one week short term course on “Industrial Tribology” organized by Mechanical department, V.J.T.I Mumbai from 7 th to 14 th December 2015.
5	Prof. Adnan Shaikh	Participated in FDP conducted by R.J.I.T Andheri West on recent trends in manufacturing practices from 29 th June 2015 to 3 rd July 2015.
6	Prof. Aditya Jawlekar	Attended one week faculty development program on “Digital Prototyping for Product Design” from 6 th to 10 th July, 2015 in P.I.I.T Panvel.
7	Prof. Dharam Ranka	Participated in the NITIE POMS Practice Leader Forum 2015 on “Innovations In Manufacturing Operations To Enhance Firm Performance” jointly organised by NITIE Mumbai and POMS USA at NITIE, during December 18-19, 2015.
