



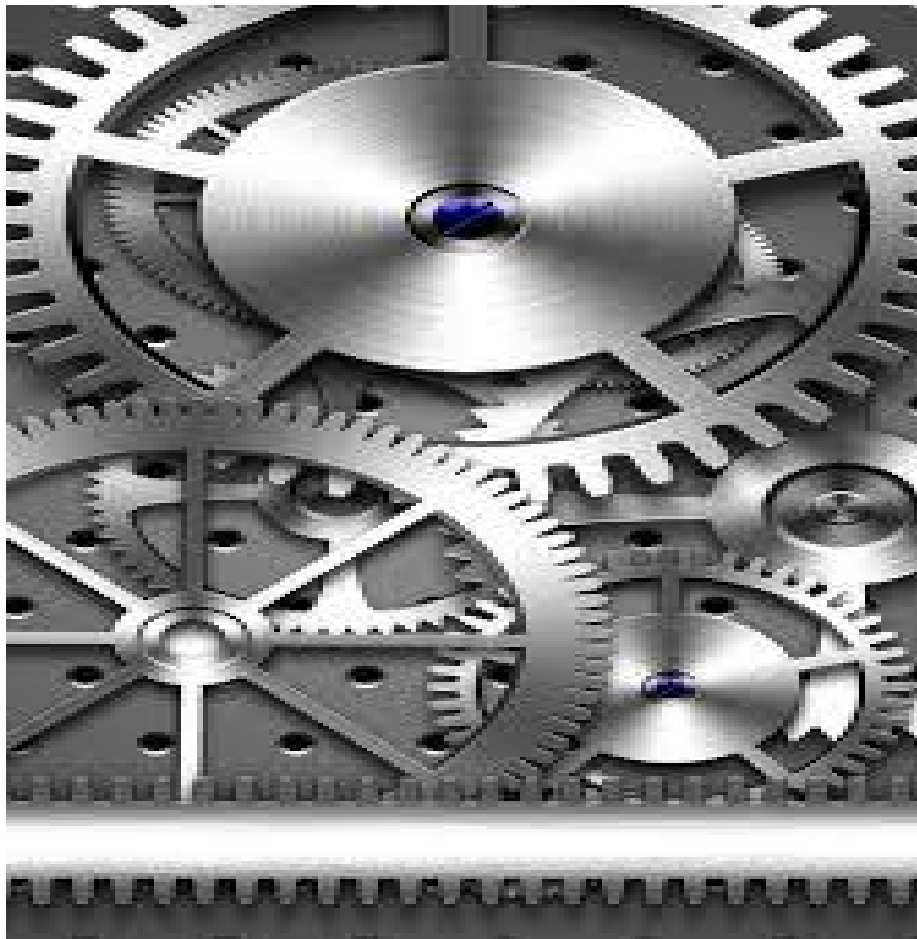
Shri Vile Parle Kelvani Mandal's  
**Dwarkadas J. Sanghvi  
College of Engineering**



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

# ACADEMIC REPORT

Academic Report of the Department of Mechanical Engineering  
(2017 - 2018)



Editors:

Dr K N Vijay Kumar  
P Frank Crasta  
Dharam V. Ranka

# INDEX

<b>Sr. No.</b>	<b>Content</b>	<b>Page no.</b>
1	Departmental Vision, Mission and PSO's	3
2	About the Department	4
3	Administration	5
4	Student Chapters	8
5	Student Achievements in Student Chapter Activities	12
6	Performance in University Examinations And Placements	16
7	Research Work of the Faculty	17
8	Faculty as Participants in Faculty Development/Training Activities/STTP	18
9	Interaction with Outside World	20

# 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.

## **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.

### 3. ADMINISTRATION

**Dr. K. N. Vijaya Kumar**  
**Professor & Head**

#### **Teaching Staff**

Dr. C. M. Choudhari  
Professor

Prof. Prasad Shirodkar  
Assistant Professor

Prof. Vyankatesh Bagal  
Assistant Professor

Prof. Rajnarayan Yadav  
Assistant Professor

Prof. P Frank Crasta  
Assistant Professor

Prof. Prashant R Patankar  
Assistant Professor

Prof. Dhaval Birajdar  
Assistant Professor

Prof. Vinit Katira  
Assistant Professor

Prof. Rohit Chaurasia  
Assistant Professor

Prof. Ramesh R Rajguru  
Assistant Professor

Prof. Pavan Rayar  
Assistant Professor

Prof. Bronin Cyriac  
Assistant Professor

Prof. Greegory Mathew  
Assistant Professor

Prof. Dhananjay Shukla  
Assistant Professor

Prof. Karthik Ajugia  
Assistant Professor

Prof. Shashikant Auti  
Assistant Professor

Prof. Ravikant Hattale  
Assistant Professor

Prof. Shreya Kadwadkar  
Assistant Professor

Prof. Sachin Kamble  
Assistant Professor

Prof. Saurabh Vichare  
Assistant Professor

Prof. Aditya Jawlekar  
Assistant Professor

Prof. Dharam Ranka  
Assistant Professor

### **Non-Teaching Staff**

Mrs. Vaishali Joshi  
Lab. Assistant

Mr Suresh Mohite  
Lab. Attendant

### **Committees**

#### **SAE**

Prof. Rajnarayan Yadav  
Prof. Ramesh Rajguru  
Prof. Shashikant Auti  
Prof. Bronin Cyriac  
Prof. Dharam V. Ranka

Prof. Vinit Katira  
Prof. Saurabh Vichare  
Prof. Ravikant Hattale  
Prof. Greegory Mathew

#### **ISME**

Prof. P Frank Crasta

Prof. Ramesh Rajguru  
Prof. Aditya Jawlekar

#### **ISHRAE**

Prof. Vyankatesh Bagal

Prof. Dhaval Birajdar

#### **RAS**

Prof. Pavan Rayar

Prof. Shashikant Auti

#### **Project Committee**

Prof. Vinit Katira

Prof. Pavan Rayar

#### **NBA Committee**

Prof. Prashant Patankar- PC

Prof. Rajnarayan Yadav

#### **Time-Table Committee**

Prof. Vyankatesh Bagal

Prof. Rohit Chaurasia

#### **Placement Coordinator**

Prof. Greegory Mathew

#### **Exam Coordinator**

Prof. Dhaval Birajdar

Prof. Karthik Ajugia

#### **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

**Cultural Committee**

Prof. Greegory Mathew

Prof. Ravikant Hattale

**Sports Committee**

Prof. Aditya Jawlekar

**Alumni Coordinator:**

Prof. Dharam V. Ranka

**Class Teachers:**

SE A Division: Prof. Dhaval Birajdar

SE B Division: Prof. Ravikant Hattale

TE A Division: Prof. Saurabh Vichare

TE B Division: Prof. Aditya Jawlekar

BE A Division: Prof. Pavan Rayar

BE B Division: Prof. Dhananjay Shukla

## 4. STUDENT CHAPTERS

Department of Mechanical Engineering organizes various co-curricular activities in-line with its vision of creating competent Mechanical Engineers capable of facing global challenges. The Department motivates students to participate in various national and international competitions and exhibit proficiency. By creating a competitive ambience exclusively suited for their development, the department inspires students to push their limits. This year too, students brought accolades to the department by winning awards in competitions of International and National repute. Under the guidance of the Head of Department Dr. K N Vijaya Kumar and faculty members, the future engineers of DJSCE are set to make a difference to the society.

The various student chapters of SAE, ISME, ISHRAE and RAS regularly organizes Seminars, Workshops and Guest Lectures to motivate students to go beyond the university curriculum and to create awareness about the trending developments in the Mechanical field. Following is a brief description of activities conducted by various Student Chapters.

### (i) Value Added Programs

- The ISME student chapter conducted a two day workshop on 13<sup>th</sup> and 14<sup>th</sup> October 2017 on the basics of Mechatronics and awareness on Six Sigma at the L&T Madh training campus. The workshops were conducted by industry experts who shared their knowledge and experience with us.

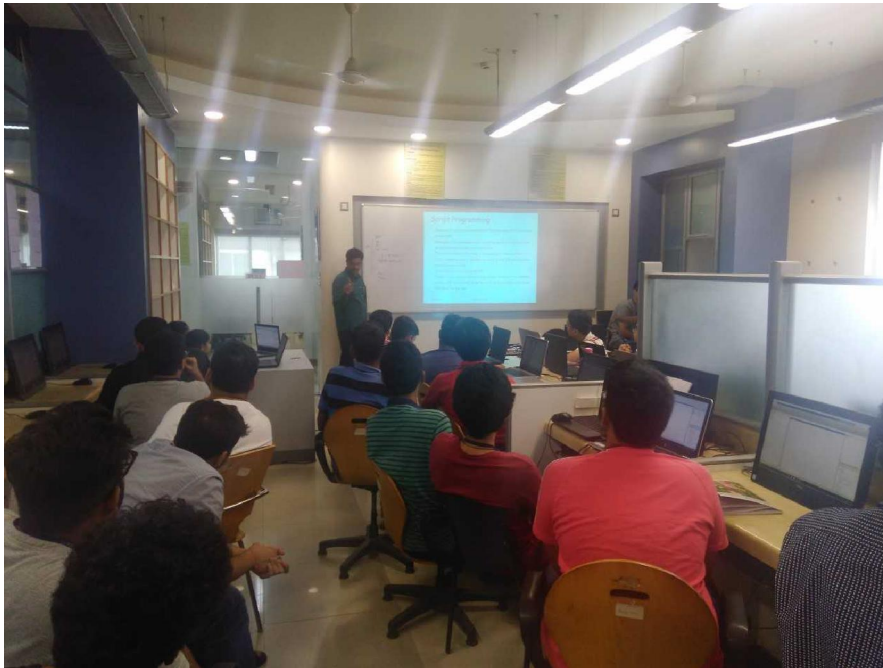






### L&T Madh C-TEA Division

- SAE organised a forty hours training program on MATLAB applications in Mechanical Engineering from 12<sup>th</sup> August to 20<sup>th</sup> August 2017. Dr. Suhas Deshmukh, Director, IoT Mechatronics Pvt Ltd was the trainer for the program.
- RAS student chapter organized a two day workshop on STM32 microcontroller by Mr. Shreyas Shah on 14<sup>th</sup> and 15<sup>th</sup> July 2017.



VAP on MATLAB applications in Mechanical Engineering

### (ii) Invited Talks

- 1) The students of DJSCE were delighted to witness the presence of Dr. Rohan Shirwaiker an Associate Professor in the Edward P. Fitts Department of Industrial and Systems Engineering and an Associate

faculty of the Joint Department of Biomedical Engineering at North Carolina State University. On the basis of his vast source of knowledge and experience he took a session on 3D- Bioprinting of Tissues: The Confluence of Biomedicine and Manufacturing on 25<sup>th</sup> October 2018.

- 2) The students were enriched with Quality Management aspects by Dr Tushar N Desai, SVNIT, Surat on 12<sup>th</sup> September 2017.
- 3) Our students got an opportunity to get the knowledge of various digital payments/transaction projects implemented/planned by Mr Sourabh Tomar of national Payments Corporation of India (NPCI) on 15<sup>th</sup> September 2017.
- 4) Invited talk on 'Introduction to Embedded Systems' by Mr. Kshitij on 20<sup>th</sup> Sept 2017



Guest lecture by Dr Rohan Shirwaiker

### (iii) Industrial Visits

Students of SE, TE and BE Mechanical Engineering visited the following manufacturing companies during academic year 2017-18.

- Mercedes Benz, Chakan
- BEST Undertaking bus workshop, Wadala, Mumbai
- Thyssen Krupp, Pune
- Modernizing Trends Pvt. Ltd., Bhandup
- Kalyani Maxion Wheels Pvt. Ltd.
- Maharashtra State Power Generation Ltd
- TATA motors, Pimpri, Pune



Industrial Visit to Thyssen Krupp, Pune

## 5. ACHIEVEMENTS OF STUDENTS IN EXTRA CURRICULAR ACTIVITIES

- DJS Kronos (All-Terrain Vehicle) participated in BAJA SAE INDIA 2018 and Enduro Student India 2018 and they have won the following prizes.



### Enduro Student India 2018

- Runners up in Maneuverability Event.
- Runners up in Business Plan Presentation.
- Second runners-up in ESI Virtual League.
- Overall 3rd in Static Events.
- Overall Rank 10

### Baja Sae India 2018

- Winners of the Maneuverability Event.
- 11th of 150 teams in the Design Report Event.

- DJS Racing (Formula-Style Racing Car) participated in Formula Bharat 2018 and won the following prizes



- Fourth overall
  - First in the Cost event
  - First in the Design event
  - First in Manufacturing
  - First in skidpad
  - 2nd in fuel efficiency
  - 4th in Endurance
- DJS Karting INDIA (Go-Kart ) participated in Go Kart Design Challenge 2018 and Indian Karting Championship 2018 and won the following prizes



#### Go Kart Design Challenge 2018

- Best Autocross
- Best CAE
- Best Acceleration
- 2nd in Skid pad
- 2nd in Business plan
- 2nd in Design event

#### Indian Karting Championship 2018 (AY 2017-18)

- Best CAE
- 3rd in Design presentation

- DJS Thunderbolt (Electric Vehicle) participated in Formula Bharat 2018 and they secured 6<sup>th</sup> position in cost analysis and sustainability, 7<sup>th</sup> in business plan and 9<sup>th</sup> position in design reporting and delivery event.
- Jay Sanghrajka selected as a team member for Volkswagen Motorsport Ameo Cup 2018, which will broadcast live in Discovery Turbo.



- Students have participated in ISHRAE Students Technical League 2017 (ISTL) and won first prize. In this competition, a team of students are given a detailed floor plan and the building layout of a building, along with heat load sheet. Team has to design an HVAC system according to the requirement and number of guidelines specified by the clients
- D J Sanghvi College of Engineering's "Robotics and Automation Society (RAS)", participated in Robocon India 2018 held by MIT, Pune from 1st March to 5th March. The Asia-Pacific Robot Contest (ABU Robocon) is an Asian Oceanian College robot competition in which a robot or a set of robots are given a task to complete within a given time frame. Team secured third prize in shuttlecock design and secured fifth position in MATLAB simulation. In overall, the team stood top 40 among the 110 teams participated all over India.



DJS Robocon Team at MIT Pune

- Shivam Tyagi participated in Standard Chartered Singapore Marathon 2017 on 3<sup>rd</sup> December 2017 and secured 5<sup>th</sup> position in 17 to 19 age group. Also he finished in 182 position among 9579 participants.



Standard Chartered  
Singapore Marathon  
2017



Shivam Tyagi with Deputy High Commissioner  
of India Mr. Ninaad Deshpande

## 6. PERFORMANCE IN UNIVERSITY EXAMINATIONS AND PLACEMENTS

### UNIVERSITY RESULTS

Branch	Course	Students Appeared	Students passed	Distinction	First Class	Second Class	Pass Class	Fail	% Passing
Mechanical	S.E.	147	138	54	59	25	0	9	93.87
	T.E.	148	145	53	69	22	1	3	97.97
	B.E.	141	141	95	45	1	0	0	100

### Placement Details

Year	Number of placements offered	Number of Students placed	Number of Students planning to pursue higher education
B.E	66	53	33

### Companies

Infosys  
 Godrej  
 TCS  
 L&T Infotech  
 Reliance Petrochemical  
 SELEC  
 ACG Worldwide  
 Bluestar  
 Media.net  
 Jacobs  
 Marwadi Shares & Finance Limited  
 Toppr.com  
 JRE Private Limited  
 Aufklaren  
 Avalon Global research  
 Convonix  
 BOSCH  
 Techint  
 Byju  
 Mahindra & Mahindra



## 7. RESEARCH WORK OF THE FACULTY MEMBERS

### (i) Sponsored Projects/Research Work

Name of Principal Investigator	Duration of project	Name of the research project	Amount / Fund received	Name of funding agency	Year of sanction	Department of recipient
Dr. C M Choudhari	1 year	Modelling and Simulation of Metal Casting for improvement of Micro-structure using chills	50000	University of Mumbai	2017-18	Mechanical Engineering
Ramesh Rajguru	1 year	Grey Fuzzy Optimization of Process Parameters for CNC Turning of Inconel 825 Nickel Based Super Alloy	45000	University of Mumbai	2017-18	Mechanical Engineering

### (ii) Publications :

Sl. No .	Name of the teacher	Title of the paper	Title of the proceedings of the conference	Year of publication	ISBN/ISSN number of the proceeding
1	Saurabh Vichare	Implementation of 5S Methodology in profile cutting industry	SSRG international Journal of Mechanical Engineer	July 2017	ISSN-2348 8360
2	Ramesh Rajguru	Optimization Of Multi-Performance Characteristics in the Turning Of GFRP(E) Composites using Principle Component Analysis combined with Grey Relational Analysis”	Elsevier Materials today Proceedings Volume 5, Issue 2, Part 1, 2018, Pages 5955-5967.	2018	DIO.org/10.1016 /j.matpr.2017.12. 197

**8. FACULTY AS PARTICIPANTS IN FACULTY DEVELOPMENT/TRAINING ACTIVITIES/STTPS**

<b>Sr. No.</b>	<b>Name of the Faculty</b>	<b>Department</b>	<b>Courses/ Workshop/ STTP</b>	<b>Date</b>	<b>Period (In days /weeks)</b>	<b>Conducted by &amp; Venue</b>
<b>2017-18</b>						
1	Dr. K. N. Vijaya Kumar	Mechanical	Academic Leadership Meet	04 <sup>th</sup> August, 2017	One day	Thakur College of Engineering & Technology, Kandivali (E).
2	Mr Prasad Shirodkar	Mechanical	Revised accreditation Framework: New Guidelines from NAAC	18 <sup>th</sup> December , 2017	One day	Birla College, Kalyan, Thane district
3	Mr Rajnarayan Yadav	Mechanical	Mechanical, Manufacturing and Monitoring using MATLAB	11-16 <sup>th</sup> December , 2017	6 days	VNIT Nagpur
4	Mr Ramesh Rajguru	Mechanical	Mechanical, Manufacturing and Monitoring using MATLAB	11-16 <sup>th</sup> December , 2017	6 days	VNIT Nagpur
5	Mr Dharam Ranka	Mechanical	Fundamentals of CAD and CAE using AUTODESK – FUSION 360	3-5 <sup>th</sup> July, 2017	3 days	FCRIT, Vashi

6	Avadhut Anant Samant		Operations Management	Jan-April 2018	12 Weeks	NPTEL Online Course
7	Avadhut Anant Samant		Operations and Supply Chain Management Management	Jul -Oct 2017	12 Weeks	NPTEL Online Course

## **9. INTERACTION WITH OUTSIDE WORLD**

### **Dr. K.N. Vijaya Kumar**

- \* Member of Syllabus Committee Mechanical Branch.
- \* Reviewer of Taylor and Francis journal
- \* LIC Committee Member

### **Dr. C. M. Choudhari**

- \* Member of Syllabus Committee Mechanical Branch.

### **Prof. Prasad S. Shirodkar**

- \* Member of Syllabus Committee Mechanical Branch.

### **Prof. P. Frank Crasta**

- \* Member of Syllabus Committee Mechanical Branch.

### **Prof. Ramesh R. Rajguru**

- \* Member of Syllabus Committee Mechanical Branch.