

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

(Autonomous College Affiliated to the University of Mumbai NAAC Accredited with "A" Grade (CGPA: 3.18)



Department of Mechanical Engineering

(Accredited by NBA)

ACADEMIC REPORT AY 2021-22



Editor:

Dr. K. N. Vijaya Kumar

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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

- To impart fundamental concepts of basic sciences and allied areas of engineering and technology.
- 2. To enable students, to develop into competent engineering professionals.
- 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

- 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.
- 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

- 1. Students will acquire analytical and application skills, specifically in areas of mechanical design, thermal engineering and manufacturing systems.
- 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 pursing 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

of acquiring knowledge.

Department of Mechanical Engineering instituted in the year 2011 with undergraduate (BE) and post graduate (ME) programs permanently affiliated to the University of Mumbai.
 The department is accredited by National Board of Accreditation (NBA) for a period of three years with effect from the Academic Year 2018-19.
 The department has Ph.D. (Technology) program 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

ADMINISTRATION

Dr. K.N. Vijaya Kumar Professor & Head

TEACHING STAFF

Dr. Atul DhaleProfessor

Prof. Prasad Shirodkar Assistant Professor

Dr. Meeta GandhiAssistant Professor

Prof. Vinit KatiraAssistant Professor

Prof. Pavan Rayar Assistant Professor

Prof. Dhananjay Shukla Assistant Professor

Prof. Ravikant Hattale Assistant Professor

Prof. Sachin Kamble Assistant Professor **Dr. Vinayak Khatwate** Associate Professor

Prof. Vyankatesh Bagal Assistant Professor

Prof. Prashant R Patankar Assistant Professor

Prof. Rohit Chaurasia Assistant Professor

Prof. Bronin CyriacAssistant Professor

Prof. Karthik AjugiaAssistant Professor

Prof. Avadhut Samant Assistant Professor

Prof. Dhiraj NigadeAssistant Professor

Dr Sanjeev ThoolAssistant Professor

Prof. Rajnarayan Yadav Assistant Professor

Prof. Dhaval Birajdar Assistant Professor

Prof. Ramesh R Rajguru Assistant Professor

Prof. Greegory Mathew Assistant Professor

Prof. Shashikant AutiAssistant Professor

Prof. N. C. DeshpandeAssistant Professor

Prof. Dharam Ranka Assistant Professor

NON-TEACHING STAFF

Mrs. Vaishali Joshi Lab. Assistant Mr. Suresh Mohite Lab. Attendant

Mr. S Shimpi Lab. Assistant

Mr. Sushant Vanne Lab. Assistant

Mr. Gaurav Sapte
Lab. Attendant

COMMITTEES

SAE

Prof. Rajnarayan Yadav

Prof. Vinit Katira

Prof. Rohit Chaurasia

Prof. Shashikant Auti

Prof. Ravikant Hattale

ISME

Prof. Ramesh Rajguru

ISHRAE

Prof. Vyankatesh Bagal Prof. Dhaval Birajdar

RAS

Prof. Pavan Rayar

TIME-TABLE COMMITTEE

Prof. Vyankatesh Bagal Prof. Rohit Chaurasia

PLACEMENT COORDINATOR

Prof. Rohit Chaurasia

EXAM COORDINATOR

Prof. Dhaval Birajdar Prof. Karthik Ajugia

U. G. COORDINATOR

Prof. Bronin Cyriac

P. G. COORDINATOR

Prof. Greegory Mathew

Prof. Greegory Mathew Prof. Bronin Cyriac Prof. Dharam V. Ranka

Prof. Ramesh Rajguru Prof. Prashant Patankar

PROJECT COMMITTEE

Prof. Vinit Katira Prof. Ramesh Rajguru

NBA COMMITTEE

Prof. Prashant Patankar- PC Prof. Rajnarayan Yadav

NAAC COMMITTEE

Prof. Prashant Patankar

Ph.D. COORDINATOR

Dr. Vinayak Khatwate

F.E. COORDINATOR

Dr. Vinayak Khatwate Prof. Prasad Shirodkar

CULTURAL COMMITTEE

Prof. Ravikant Hattale

SPORTS COMMITTEE

Prof. Ramesh Rajguru

ALUMNI COORDINATOR:

Prof. Shashikant Auti

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 VijayaKumar 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.









WEBINARS

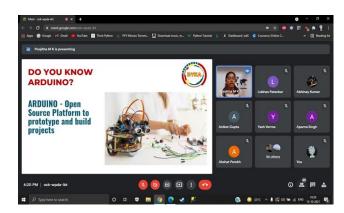
WEBINARS AND SEMINARS:

- Webinar on Additive manufacturing by Mr. Ranjeet Kumar Bhagchandani on 31st July 2021. The webinar saw a participation of 60+ attendees.
- Webinar on Emerging advancements in Automotive Technology by Mr. Balaji B on 7th August 2021. The webinar saw a participation of 60+ attendees.
- Webinar on effective ways to write a research article by Prof. Shobhana Narsimhan on 04th
 October 2021. The webinar saw a participation of 75 attendees.
- Offline Seminar on "Journey through innovation" by Prof.Ujjwal Rane on 16th March 2022. The seminar attended by 100 participates.

WORKSHOPS ORGANIZED

- Artificial intelligence and Machine learning: conducted on 16th July, 2021 by Mr. Junaid Khateeb
- 2. ARDUINO: conducted on 15th October, 2021 by Mr. Poojitha M K





ACHIEVEMENTS



FORMULA BHARAT 2021

- 2nd in Design Event
- 4th in Business Plan Presentation Event
- 2nd Overall

FORMULA BHARAT 2022

- 2nd in Business Plan Event
- 3rd in Cost Event
- 5th in Design Event
- 4th Overall





e-BAJA 2021

- 6th Overall
- Best Debutant
- 2nd in Best 4WD Team Award
- 2nd in CAE Award
- 2nd in Suspension and Traction Award
- 3rd in Best Brake Performance Award
- 3rd in Acceleration Award
- 3rd in Gradeability Award

e-BAJA 2022

- 1st in overall virtual dynamic event
- 2nd in CAE Award
- 1st in Maneuverability in virtual dynamics
- Winner of Suspension and traction,
- 1st in all terrain performance in Virtual dynamics
- 1st Cost Report

m- BAJA 2022

- SNT 8th
- Overall 9th



GO KART DESIGN AND RENDERING CHALLENGE 2021-22

2021 -

EV-

- 2nd in Cost Report
- 3rd in Design Event
- Overall 3rd (AIR 3)

CV -

- 1st in Design Event
- 1st in Cost Report
- 2nd in Business Plan
- 1st Overall (AIR 1)





ACHIEVEMENTS:

IIPT 2021

• Finalist out of 500 teams all over India.

2022 - Coex

• 8th Rank Internationally. Only **Indian team** in the finals.

IDRL 2022

• 6th position in Et max.





SHELL ECO MARATHON 2020-21

- 1st Globally in Adobe Digital Literacy Award.
- 4th in Quiz (Asia Pacific and Middle East Region).
- 1st in Vehicle Design Prototype (Asia Pacific and Middle East Region).

2021-22 SHELL ECO-MARATHON

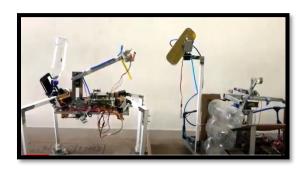
 2nd in Future Rider Competition Programming Challenge.





DD ROBOCON 2021-22

- All India Rank 9 in DD Robocon 2021
- Overall Rank 2 in Mumbai



DJS SKYLARK

SKYLARK 2021-22

2022

Regular Class:

• Design Report: 3rd

• Technical presentation: 4th

• Mission Performance: 3rd

• Worldwide Overall: 3rd

Micro Class:

• Design Report: 1st

• Mission Performance: 3rd

• Technical presentation: 5th

• Worldwide Overall: 3rd



PERFORMANCE IN END SEMESTER EXAMINATIONS

B.E. SEM VII

RESULT ANALYSIS OF MAY 2022 EXAMINATIONS

No. of Students Appeared	
No. of Students Passed	
Percentage Result	

CGPA	No. of Students
10	
>= 9	
< 9 and >= 8	
< 8 and >= 7	
< 7 and >= 6	
< 6 and >= 5	
Failed	

PLACEMENTS

Name	Company Placed	CTC (LPA)
Aayush Vipul Birla	Think360	9.55
Abduqadir Zoher Lelewala	Mu Sigma	7.5
Abduqadir Zoher Lelewala	TCS Ninja	3.6
Abduqadir Zoher Lelewala	Capgemini (D)	4
Aditya Date	Infosys	3.6
Aditya Satish Purandare	Mu Sigma	7.5
Akash Anand Rathod	Mu Sigma	7.5
Amar Harinarayan Tiwari	Deloitte India	7.6
Amar Harinarayan Tiwari	Capgemini (D)	4
Amar Harinarayan Tiwari	&T limited	6.75
Anant Vasudev Nair	TresVista	7
Atharva Patil	Jaro Education	6.15
Burhanuddin Hussein Tewala	Quantiphi	8.5
Deep Kirti Gada	Oracle Financial Services Software	8.22
Deep Nimesh Shah	Deloitte India	7.6
Dhairya Ashwin Foria	Cognizant (GenC)	4
Dhairya Ashwin Foria	Capgemini (D)	4
Dhey Rajani	ACG	4.5
Dhyey Rajani	Anglo-Eastern	5.4
Gaurav Kakra	Decima Point	6
Gaurav Maurya	GEP	8
Greeshma Vinod Gaal	Cognizant (GenC)	4
Greeshma Vinod Gaal	Deloitte India	7.6
Hitarth Atulkumar Manika	Deloitte India	7.6
Ishaan Same	Decima Point	6
Kshitij Ashok Jaiswal	TresVista	7
Lay Devang Desai	TCS Ninja	3.6
Likhit Nagraj Kunder	TATA Consulting Engineers limited	4.5
Manav Sanjeev Begani	TresVista	7
Mangesh Jaiprakash Mishra	Think360	9.55
Meet Bhagwanbhai Patel	Seec Controls	4.5
Meet Dayaji Rathod	Seec Controls	4.5
Meet Kedar Bhatia	Cognizant (GenC)	4
Meet Solanki	Anglo-Eastern	5.4
Mian Haresh Vaghani	Quantiphi	8.5
Mukesh Jagdish Mithiya	Cognizant (GenC)	4
Mukesh Jagdish Mithiya	Capgemini (D)	4
Neha Jayesh Sawant	TATA Consulting Engineers limited	4.5
	Larsen & Toubro Infotech	
Nidhi Sujay Ilsoor	(eve 1)	5
Nidhi Sujay Ilsoor	Oracle Financial Services Software	8.22

Nidhi Sujay Ilsoor	ZS Associates	12.8
Nidhi Umesh Kini	Seec Controls	4.5
Nidhi Umesh Kini	Cognizant (GenC)	4
Nimish Shashishekhar Mayekar	ZS Associates	12.8
Nishant Vias Thakur	Cognizant (GenC)	4
Nishant Vias Thakur	Capgemini (D)	4
Nishant Vias Thakur	TCS Ninja	3.6
Nishant Vias Thakur	Decima Point	6
Parth Rajesh Ama	Cognizant (GenC)	4
Prashant Vijay Kadam	Mu Sigma	7.5
Prashant Vijay Kadam	Decima Point	6
Priyansh	Think360	9.55
Purav Rahu Gandhi	Cognizant (GenC)	4
Purav Rahu Gandhi		
	TATA Consulting Engineers limited	4.5
Rameez Mehboob Sabe	Edleweiss	7
Rishit Devendra Gandhi	Capgemini (D)	4
Rohan Devadiga	TATA Consulting Engineers limited	4.5
Roshan John Sam	TCS Ninja	3.6
Sadique Selia Adam	Mu Sigma	7.5
Sahil Karande	TATA Consulting Engineers limited	4.5
Sameer Vinod Mayani	TATA Consulting Engineers limited	4.5
Shloak Chetan Yadav	Cognizant (GenC)	4
Shloak Chetan Yadav	Native	6
Shruti Subhash Jadhav	Ernst & Young	4.37
Shruti Subhash Jadhav	Deloitte India	7.6
Sridama Arun Singh	Acies Consulting	4.5
Sudarshan Bau Gawande	Quantiphi	8.5
Trisha Mangesh Rane	Cognizant (GenC)	4
Trisha Mangesh Rane	L&T limited	6.75
Tushar Baasaheb Patil	Quantiphi	8.5
Varshi Ashish Shah		4.5
	TATA Consulting Engineers limited	
Ved Raj Vartak	Ernst & Young	4.37
Vrushabh Paresh Vora	TresVista	7
Yash Narendra Thakkar	Quantiphi	8.5
Neha Jayesh Sawant	Worley	3.96
Likhit Nagraj Kunder	Bluestar	5.56
Durvesh Dandekar	Technimont	5
Deep Ani Siddhpura	JSW	5.5
Purav Rahu Gandhi Trisha Mangash Pana	Bluestar 75 Associates	5.56
Trisha Mangesh Rane Gaurav Kakra	ZS Associates JIO Platforms	12.8
Nishant Vias Thakur	JIO Platforms	4
Dhaval Bhanushai	JIO Platforms	4
Sadique Selia Adam	JIO Platforms	4
Vinit Kothari	Bluestar	5.56
Amey Parab	Voltas	3.6
Sadique Seia Adam	Voltas	3.6
Sanchit Gujaran	Squareyards	4.5

Harit Prasant Modi	Squareyards	4.5
Mihir Makwana	Squareyards	4.5
Shubh Shetty	Squareyards	4.5
Soumil Shah	Squareyards	4.5
Aditya Purandare	Squareyards	4.5
Gaurav Kakra	ZS Associates	12.8
Kshitij Ashok Jaiswa	ZS Associates	12.8
Abduqadir eewaa	Godrej & Boyce	5.5
Shubh Shetty	Godrej & Boyce	5.5
Poojan Jain	Godrej & Boyce	5.5
Indranee Jadhav	RISE WPU	6.6
Mihir Makwana	RISE WPU	6.6
Gargi bhale	RISE WPU	6.6
Akash Rathod	Pransa International (Mosdorfer)	3.75
Nishita Mehta	Pransa International (Mosdorfer)	3.75
Ayush Bhatt	Pyramid Consulting Engineers td	2.5
Hrishik Kanparia	Godrej & Boyce	5.5
Roshan John Sam	Godrej & Boyce	5.5
Ronak Gohil	Godrej & Boyce	5.5
Akshit Hirpara	Godrej & Boyce	5.5
Shivam Kadam	Godrej & Boyce	5.5
Nainika Shah	Inquizity	5.5

RESEARCH WORK OF THE FACULTY MEMBERS

Publications

		A.Y. 2021-22		
Sr. No.	Research/Academic Publications	Count	Role	
1	International Journals	9	Author	
2	International Conferences	12	Author	

Sr. No.	Name of the Author(s)	Title of the Paper	Name of the Journal / Conference	Year of publication	DOI of the Publications
1	Dr. Hari Vasudevan	A Study of Micro hardness in the Machining of Inconel 625 using TiAlSiN coated tools under Dry Cutting Conditions	International Journal "Journal of Advances in Materials and Processing Technologies", Taylor and Francis Publications.	2022	Ref. Ms. No. TMPT-2022- 0079R1, 229245391
2	Dr. Hari Vasudevan	Reliability based design optimization of casting process parameters using Markov chain model	Materials Today: Proceedings, Vol. 63.	2022	ISSN: 2214-7853, https://doi.org/10.1016/j.matpr. 2022.04.189, PP: 602-606
3	Dr. Hari Vasudevan	Investigating Casting Process Parameters Through Casting Defects Using Analytical Hierarchical Process	Proceedings of the International Conference on Recent Advances in Mechanical Engineering	2022	

4	Dr. Hari Vasudevan	Critical Success Factors for Industry 4.0 Readiness and Adoption: A Conceptual Framework for Indian Manufacturing Industries	International Conference on Advanced Production and Industrial Engineering (ICAPIE- 2022)	2022	
5	Dr. Hari Vasudevan	A model for challenges and opportunities in the Implementation of Digitized Transforming Enablers in Manufacturing Industries	International Conference on Advanced Production and Industrial Engineering (ICAPIE- 2022)	2022	
6	Dr. Hari Vasudevan	Machining Induced Surface Integrity Aspects of Stainless Steels: A Review	Materials Today: Proceedings, Vol. 22, Part: 4;	2021	https://dbi.org/10.1016/j.matpr. 2020.02.067, PP: 1499-1506
7	Dr. Hari Vasudevan	Technological Innovativeness and Manufacturing Performance in Indian Manufacturing SME's: Some Policy Implications	Operations Management and Systems Engineering, lecture notes on multidisciplina ry Industrial Engineering, Springer Nature, 2021	2021	DOI:10.1007/978-981-15-6017-0_29
8	Dr. Hari Vasudevan	Innovativeness and its Relationship with Firm Performance in SMEs: Understanding the Research Gap through Literature review	International Conference on Industrial and Manufacturing Systems (CIMS-2021)		
9	Dr. Vinayak H. Khatawate	Design and Analysis of	Advances in Mechanical	Jan-22	DOI:10.1007/978-981-16- 2794-1_82

10	Dr. Vinayak H.	Multi-purpose Shop floor Vice.	and Materials Technology, lecture Notes in Mechanical Engineering. pp 925-941. Springer, Singapore. Advances in	Jan-22	DOI: 10.1007/978-981-16-
	Khatawate	Analysis of Tank Gun Barre	Mechanical and Materials Technology, lecture Notes in Mechanical Engineering. pp 925-941. Springer, Singapore.		2794-1_61
11	Dr. Vinayak H. Khatawate	Design and Analysis of Be- Parabolic De ava Rocket Exhaust Nozzle	4 th Biennia International Conference on Nascent Technologies in Engineering (ICNTE), IEEE Xplore	Jul-21	DOI:10.1109/ICNTE51185.20 21.9487717
12	Dr. Vinayak H. Khatawate	The manuscript titled "Analysis of a Rocket Nozzle Using Method of Characteristics"	The International Conference on "Recent Advances in Materials, Manufacturing and Machine learning (RAMMM-2022)	26 th - 27 th April 2022	manuscript ID: 87
13	Dr. Vinayak H. Khatawate	The Poster titled "Analysis of a Double UV Joint in Steering System of the Vehicle"	The International Conference on "Recent Advances in Materials, Manufacturing and Machine learning (RAMMM-2022)	26th - 27th April 2022	manuscript ID: RAMMM-173

14	Dr. Vinayak H. Khatawate	The manuscript titled "Optimization of aerofoil shape based on lift and efficiency using Genetic Algorithms with PARSEC Method"	The International Conference on "Recent Advances in Materials, Manufacturing and Machine learning (RAMMM- 2022)	26th - 27th April 2022	manuscript ID: 176
15	Dr. Vinayak H. Khatawate	The Poster titled "Optimization of Power Screw Materia used in Screw Jack"	The International Conference on "Recent Advances in Materials, Manufacturing and Machine learning (RAMMM-2022)	26th - 27th April 2022	manuscript ID: RAMMM-207
16	Dr. Vinayak H. Khatawate	The Poster titled "Design of a delta wing glider at low altitudes"	The International Conference on "Recent Advances in Materials, Manufacturing and Machine learning (RAMMM-2022)	26th - 27th April 2022	manuscript ID: RAMMM-412
17	Dr. Vinayak H. Khatawate	The manuscript titled "Design and analysis of singe-phase liquid Immersion Cooing (SIC) for motor controller of a Super-mileage vehicle"	The International Conference on "Recent Advances in Materials, Manufacturing and Machine learning (RAMMM-2022)	26th - 27th April 2022	manuscript ID: 496
18	Prof. Dhaval Birajdar	Critical Success Factors for Industry 4.0 Readiness and Adoption: A	7th International Conference on Advanced Production and	11-12th June 2022	PAPER ID- 2209

		Conceptual Framework for Indian Manufacturing	Industrial Engineering (ICAPIE)- 2022		
19	Dr. Ramesh Rajguru	Industries A study of Micro hardness in the machining of Income 625 using TiAlSiN coated tools under Dry Cutting Conditions	2nd International Conference on Industrial and Manufacturing Systems	11 - 13th Novel 2021	PAPER ID: CIMS - 182
20	Prof. Vinit Katira	Design and Analysis of a Pneumatically Actuated Drag Reduction System	Automotive Technical Papers, SAE International	Oct-21	https://doi.org/10.4271/2021 -01-5080
21	Dr. Sanjeev Thool	Formulation of a Mathematica Mode for Heat Transfer Coefficient of Micro Channel Heat Sink in Electronics Cooing	Materials Today Proceedings	Jul-21	DOI:10.1016/j.matpr.2021.11.0 70

FACULTY PARTICIPATION IN SEMINARS / CONFERENCES / NPTEL AND COURSERA DURING THE YEAR 2021-22

A. Y. 2021-22						
Sr No.	Name of the Faculty	FDP/STTP's	NPTEL	Coursera	Webinar / talks	Quizzes/Others
1	Dr. Hari Vasudevan			1		

2	Dr. K N Vijayakumar					
3	Dr. Satish Takalikar					
4	Dr. Atul Dhale	6	15			
5	Dr. Vinayak Khatawate	4		1		
6	Dr. Meeta Gandhi	1		4		
7	Dr. Ramesh Rajguru					
8	Dr. Sanjeev Thool	2		1		1
9	Prof. Prasad Shirodkar	2		1		
10	Prof. Vyankatesh Bagal	1		3		1
11	Prof. Rajnarayan Yadav		1	1		
12	Prof. Dhaval Birajdar	2		1		
13	Prof. Prashant Patankar	2		1		
14	Prof. Vinit Katira	2		3		
15	Prof. Rohit Chaurasia	2		1		
16	Prof. Gregory Mathew	1			1	
17	Prof. Bronin Cyriac			2	1	
18	Prof. Kartik Ajugia					
19	Prof. Pavan Rayar	1				
20	Prof. Dhananjay Shukla		2	6		
21	Prof. Shashikant Auti			3	2	1

22	Prof. Ravikant Hattale	4		
23	Prof. Avadhut Samant	1		
24	Prof. N C Deshpande		2	
25	Prof. Sachin Kamble			
26	Prof. Dhiraj Nigade			

INTERACTION WITH OUTSIDE WORD

Name of the facu	ty	Nature of Interaction	Date	Organized by
Prof. Ramesh Rajg	ıru	Webinar on Application of DOE in Manufacturing with Minitab	23 rd Oct 2021	M.H. Saboo Siddik College of Engineering