

MCT  
MANJARA CHARITABLE TRUST  
RAJIV GANDHI INSTITUTE OF TECHNOLOGY, MUMBAI  
DEPARTMENT OF MECHANICAL ENGINEERING

# MECHCHRONICLE

ACADEMIC YEAR  
2021-2022

RGIT'S  
MESA

# MECHCHRONICLE

**Academic Year 2021-2022**

## ABOUT MECHANICAL DEPARTMENT

Department of Mechanical Engineering at the MCT's Rajiv Gandhi Institute of Technology provides quality education, conducts strong research programs, foster close partnerships with industry, and provides related services to the campus community and the community at large. A pillar of strength from which the department draws its strength is a team of highly qualified, experienced and dedicated staff.

The cutting edge that the department has over others is its focus on technologies and knowledge about the current trends in the field of Mechanical Engineering. The academic leadership of department has endeavored itself to the students by its attention to details and personal attention. This has helped in preparing students for the challenges they face in the outside world and helping them secure a better professional future.

Department has PG in Mechanical Engineering with an intake of 18 since 2012 and PhD in Mechanical Engineering with an intake of 10 since 2017.

## DEPARTMENT VISION

The department envisions to develop itself into department of academic excellence and to generate outstanding technocrats & managers, who can make valuable contributions to the global business and society.

## DEPARTMENT MISSION

- To provide contemporary and cutting-edge technical education in Mechanical Engineering.
- To provide an ambience which nurtures research ideas in futuristic domains of Mechanical Engineering.
- To initiate project based learning and practical exposures in the area of Mechanical Engineering.
- To direct faculties in research and consultancy / advisory roles.
- To establish strong linkages with well-known national and international technical institutes.
- To promote the culture of imbibing environmental care and eco-friendly designs.
- To become a department of aspiration & choice.

## PROGRAM EDUCATIONAL OBJECTIVES (PEO'S)

- To prepare the stakeholder to exhibit leadership qualities with demonstrable attributes in lifelong learning to contribute to the societal needs.
- To make ready the stakeholder to pursue higher education for professional development.
- To help the stakeholder to acquire the analytical and technical skills, knowledge, analytical ability attitude and behavior through the program.
- To prepare the stakeholders with a sound foundation in the mathematical, scientific and engineering fundamentals.
- To motivate the learner in the art of self-learning and to use modern tools for solving real life problems and also inculcate a professional and ethical attitude and good Leadership qualities.

- To prepare the stake holder to able to Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

## COVID-19 PANDEMIC YEAR

During the **COVID-19 pandemic**, our college **Rajiv Gandhi Institute Of Technology** started shifting to online learning to continue education while adhering to safety protocols. This period, often referred to as the "corona class time," saw widespread use of virtual classrooms, video conferencing tools, and learning management systems (LMS) like Zoom, Google Classroom, Microsoft Teams, and others.

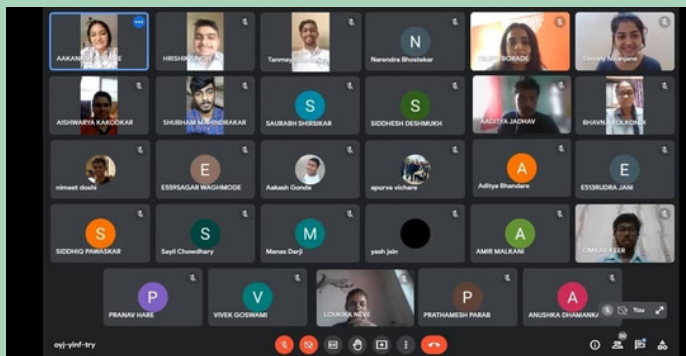
**lectures and viva were conducted via online platform.**

Here are some key aspects that defined "corona class time":

1. **Online Platforms:** Classes moved to platforms such as Zoom, Google Meet, and Microsoft Teams, where students could join virtual lessons in real-time.
2. **Increased Digital Tools:** There was a rise in the use of online educational tools, such as Google Classroom, Blackboard, and Canvas, to manage assignments, quizzes, and learning materials.
3. **Challenges:** Many students and teachers faced challenges like technical difficulties, lack of access to stable internet, and the difficulty of engaging students in a virtual environment.

Still our student didn't stop and keep there focus and made many **webinar, workshops, industrial visit.**

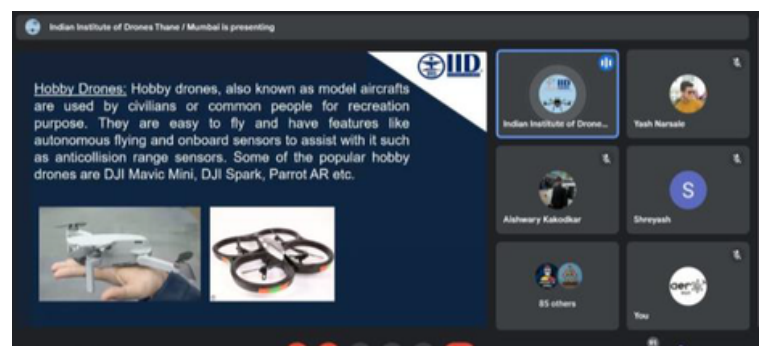
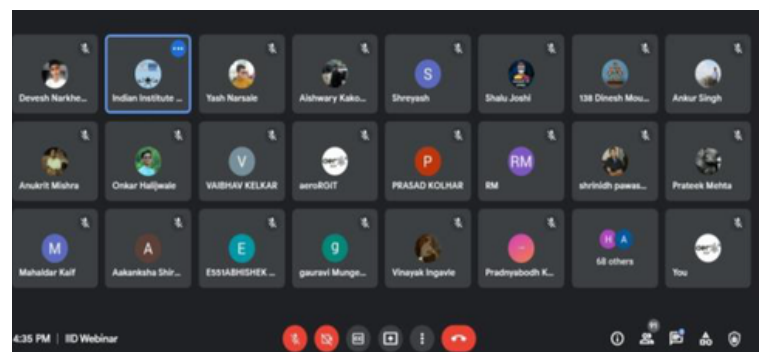
Webinars became an essential tool during that time for remote learning, networking, and professional development. During physical industrial visit the strict health and safety protocols in place at that time. Ensuring a safe and productive experience for all participants must have required thorough planning.



## Team AeroRGIT Hosts SAE Student Chapter Webinar on Drones: Exploring Innovations in UAV Technology"

An illuminating webinar focused on drone technology was organized by **AeroRGIT**, on **4th September 2021** at 4pm in collaboration with IID. The session started with the introductory speech by **Mr. Nikhil Thosar**, where he introduced the committee and its activities.

As the webinar commenced, the host, **Mr. Rakesh Rai** introduced himself and explained the agenda about the importance of drones nowadays. The Speaker also asked the participants about when was the first time, they heard about the term drone and there was huge response by participants. The speaker explained about types of UAV's, their uses and the various purposes of drones in military field like surveying, mapping, patrolling, and many more. He then introduced the wireless communication and its various types. A Q&A session was held where all queries of the attendees were cleared. The session concluded with a vote of thanks and regards from the committee.





## RGIT's MESA Conducted a Webinar on Career Opportunities in Public Sector Institutions: Guiding Pathways to Government Careers

RGIT's MESA is the oldest student body in the mechanical department which provides professional and practical experiences for students' overall development. On **7th October, 2021** RGIT's MESA organized a webinar on Career Opportunities in Public Sector Institutions. The speaker for this event was **Mr. Karan Sardana**. He is teaching quant from last 13 years to Bank/SSC aspirants and taught 20000+ students. The purpose of this event is to tell students about the different job opportunities in the Public Sector, their scopes and strategies for preparation. The speaker started his session by showing the different types of career opportunities after graduation and explained why to choose govt. Jobs over other different options. Then, he elaborated the different types of fields where we can apply for a government jobs. He briefly discussed some of the best paying government jobs after graduation and their exam pattern. He also tells us the best strategies to crack those exams. At last, we had a doubts session where all students questions were answered by **Mr. Karan Sardana**. This event would have definitely benefit the students to choose their career path and help them to make the best strategies for their examination. Then the event concluded with a vote of thanks from RGIT's MESA.

## ISHRAE'S NATIONAL STUDENT DESIGN COMPETITION: EMPOWERING TOMORROW'S ENGINEERS WITH INNOVATIVE HVAC SOLUTIONS

Indian Society of Heating Refrigeration and Air-Conditioning Engineers (ISHRAE), a national level committee with more than 28,000 active ISHRAE members all over the world, contributing in the field of refrigeration and air conditioning organizes national and international level events & competitions.

National Student Design Competition (NSDC) is organized globally, where students were to design the Heating Ventilation and Air-conditioning (HVAC) for a two-floor hospital.

Four of our ISHRAE members participated and attempted their best to complete the task

STUDENTS  
ISHRAE

### SHOW YOUR METTLE IN HVAC&R DESIGN

Design of Air Conditioning and Ventilation System for a Multi-specialty Hospital building that pertains to Comfort Cooling, Ventilation and Indoor Air Quality





**NSDC 2020-21**

**National Student Design Competition 2021-22**

#### THE TASK

Design Theme: Design of Air Conditioning and Ventilation System for a Multi-specialty Hospital building that pertains to Comfort Cooling, Ventilation and Indoor Air Quality.

The Multi-specialty Hospital building consists of 2 Floors with Terrace.

**Ground Floor:**  
Reception, Doctor Consulting Room, Emergency Rooms, Testing Rooms, Admin Rooms such as Billing, Accounts and MD Rooms, General Wards, Physiotherapy Rooms, Store Rooms, House Keeping Room, Staff rest Room, Nurse Station, Pharmacy, Canteen and Toilets are available.

**1st Floor:**  
Individual wards, Urology, ENT and Intestine Medicare rooms, visitor's room, conference room, Operation Theatres, Isolation Room, Doctor's room, staff room and toilets are available.

For more information/details, refer the drawing.

Competition Open for ISHRAE Student Members

**AWARD**

**1st PRIZE**  
UNDER ₹30,000

**2nd PRIZE**  
UNDER ₹20,000

**Motivational Prize: Under ₹10,000**  
(Cash prize includes ISHRAE Publications)

**Participation Certificates will be given to all the participant.**

#### JURY MEMBERS

Panel of Top Notch Industry Experts from across the country.

#### IMPORTANT DATES

| Activity/Phase (Flow of Competition)  | Last Date              |
|---|------------------------|
| Release of NSDC Flyer & White Paper, Detail documents with Problem statement, Drawings etc.   | 21.07.2021 (Wednesday) |
| Phase 1- Registration: This registration sheet will consist of registration form, Team members and Mentor details.  | 31.08.2021 (Tuesday)   |
| Phase 2: Submission of design: The report should include assumptions, design calculations and other energy efficiency measures, duly approved by mentors. | 31.12.2021 (Friday)    |
| Phase 3: Design presentation at Zone level: (Online Presentation, Shortlisted Teams)  | 29.01.2022 (Saturday)  |
| Phase 4: Design Presentation at National level: (Online Presentation, Participants: Top 2 teams from each zone)   | 05.02.2022 (Saturday)  |

#### PROJECT REPORT MAY INCLUDE FOLLOWING

Proposed system details of Multi-specialty Hospital building with design & necessary drawings.

Design Basis Report including assumptions, Energy Calculations, Duct designs etc.

Specific assumptions to be listed.

HVAC & IEC (International Electrotechnical Commission) system selection based on energy efficiencies and other features.

Air flow design & distribution.

Part Load efficiencies & Life Cycle cost analysis.

#### CRITERIA FOR EVALUATION

Evaluation of the project will be based on

- Heat Load Calculation
- Equipment selection
- Duct design
- Originality
- Innovation..... Any New technology adopted.
- Practicability
- Special IQ2 features (Health safety features and standards followed)
- Design qualifying Load fluctuations
- Energy calculations and life cycle cost analysis
- Affordability (Comparison between VRF and Chilled water systems)

### Career Options after Graduation



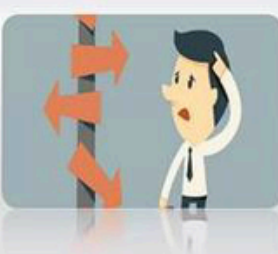
MANJARA CHARITABLE TRUST  
RAJIV GANDHI INSTITUTE OF TECHNOLOGY, MUMBAI  
PERMANENTLY AFFILIATED TO MUMBAI UNIVERSITY, DEPARTMENT OF MECHANICAL ENGINEERING

#### Career Opportunity in Public Sector Institutions



**Key Highlights**

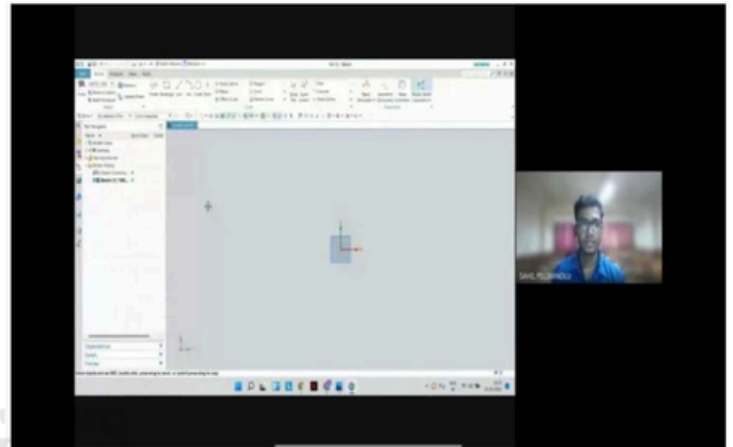
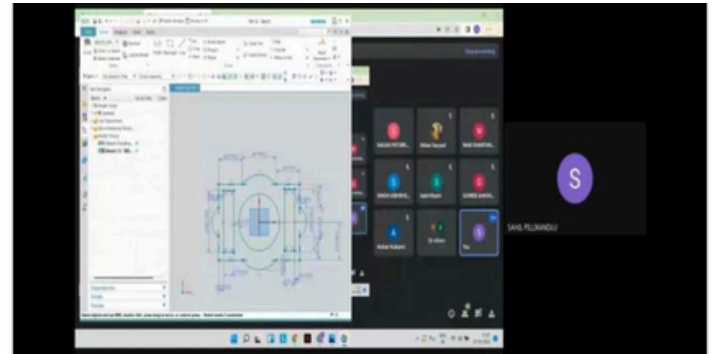
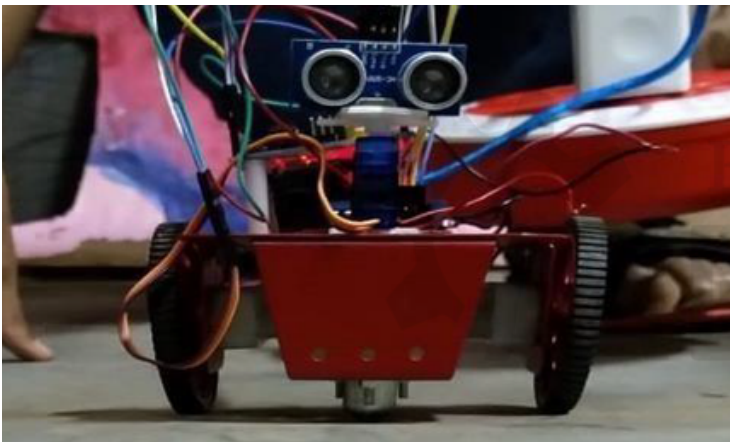
- Opportunities in PSI after Graduation
- Salary / Lifestyle
- Benefits of a Government Job
- Tips and Strategies



## RGIT'S ROBOTICS CLUB PARTICIPATED IN TECHFEST 2021-22

**RGIT's ROBOTICS CLUB** has been participating in the National Level competitions of Techfest each year. This year we are participating in 4 competitions with around 30 participants. All teams successfully cleared the first stages of all competitions they participated in.

- Meshmerize
- Micromouse
- Cozmo-Clench
- Automatathon



## TEAM RGIT RACING HOSTS 3-DAY SOLIDWORKS WORKSHOP TO ENHANCE ENGINEERING DESIGN SKILLS

**Team RGIT Racing** in collaboration with **ASME** **RGIT** conducted a 3-day workshop on **SOLIDWORKS** from **28th March 2022** till **30th March 2022**.

Basics of SolidWorks were taught to the participants by Mr. Vinayak Bhat (SAE captain 2022).

The Workshop was followed by Q&A session where all the doubts related to SolidWorks were solved.

## ASME-RGIT Conducts Workshop on NX CAD: Advancing Skills in 3D Modeling and Design"

ASME-RGIT had organized a Webinar on 'NX CAD Software 12.0' from 24th Jan to 29th Jan 2022, for better understanding of basic CAD sketching, modelling and assembly in a task environment. The webinar was open for all the ASME & NON-ASME members. The webinar costed **INR400** for ASME members and **INR500** for non ASME members. It was conducted by ASME members. Total 40 students attended this workshop.

Topic covered:

- Introduction to NX CAD and Basic Sketching
- Commands of sketching in a task environment.
- Learn Synchronous modelling, Assembly
- Drafting a project
- 3D modelling features
- Synchronized modelling.





## RGIT'S MESA ORGANISED AN INDUSTRIAL VISIT AT KLT AUTOMOTIVE, PALGHAR

The Mechanical Engineering Students Association (MESA) of Rajiv Gandhi Institute of Technology organized an industrial visit On 19th April ,2022 RGIT'S MESA Conducted a Industrial visit at KLT Automotives . Located at Palghar. They Started our journey from Andheri. All MESA team members gathered at Andheri station . Students who wanted to come directly to Palghar station were allowed to travel on the way they where. Each and every student was instructed to reach Palghar station by 9:10 to 9:15am.and a roll call as taken there. The bus was scheduled at 9:30am from Palghar station to the industry. Mesa had arranged packaged drink. Also The industry welcomed us by giving a good light breakfast of biscuits and tea. Everybody was excited for visiting the industry and gaining knowledge. Different types of machineries were witnessed by the students regarding manufacturing and production like tube manufacturing and chassis of trucks and cars. Students got Enlighted about Various types machines and technologies used in manufacturing process. and d KLT staff explained working and functions of each machine used in manufacturing process. it helped student to analyze industry properly. At 3:30 roll call for students were done and we departed from the plants



## NUMBER OF STUDENTS WHO SECURED PLACEMENTS IN THE YEAR 2021-2022

1. RAOTE RUGVED RITESH
2. BANDIWADEKAR VARAD JAYANT
3. SAVALE JAY SANTOSH
4. KAMTEKAR KUNAL KISHOR
5. JADHAV BALASAHEB DNYANDEV
6. SIDDHESH MOHAN DIVATE
7. AWASARMOL NITIN RATAN
8. PARAB OMKAR BALKRISHNA
9. SAMANT MEET PRASAD
10. SHINDE DIPESH SURESH
11. PARAB PRATHAMESH PRAMOD
12. SONALI SHANTARAM KHAMKAR
13. MITESH SUDHAKAR BHANGARE
14. SHIVANI VISHWANATH CHAVAN
15. PAWAR VAISHNAVI SHASHIKANT
16. ALISHA VINERKAR
17. MAKTABAY AAMIR SOHEL AKHTAR
18. PATIL TANVESH NITIN
19. JAGTAP DEVENDRA VIJAY
20. JAYESH SANDEEP GHAGARE
21. NARVEKAR KAUSTUBH VIRENDRA
22. SAPKAL OMKAR GANESH
23. MOKAL PRADNESH DINESH
24. MOMIN ABDUL MAARIJ ARIF
25. TANVI SUNIL GAIKWAD
26. BANGERA SHRAVAN VINOD
27. SUDRIK ONKAR PRAMOD
28. GUPTA ADITYA AKHILESH
29. SAYYAD AIYAZ HUSSAIN
30. PATNE NEHA SHIVAJI
31. JADHAV AADITYA DHANANJAY
32. ANUKOOL SASI
33. JAISWAL UTSAV SHYAM
34. DISHANT DAMODAR GAWANE

## MAJOR RECRUITERS WHO VISITED THE CAMPUS FOR PLACEMENT

1. INTELLIPAAT SOFTWARE SOLUTION
2. TECNIMONT
3. QSPIDER
4. SAHAS SOFTECH LLP
5. AXIS ELECTRICAL COMPONENTS
6. PORTESCAP
7. DIGIT
8. DAKSHIN
9. BECROCHEM LOEDING PROCESS TECHNOLOGY
10. NIKHIL COMFORT
11. TECNIK VALVES PVT LTD
12. LESER INDIA PVT LTD
13. AKER SOLUTIONS
14. CONTEC AIRFLOW PROJECTS PVT LTD

## MEET OUR TEAM

**DR. RAJESH KALE**

**H.O.D**

**HRISHIK  
KAUSHIK  
PRESIDENT**

**SHUBHAM  
MAHINDRAKAR  
VICE  
PRESIDENT**

**PROF. REHAN SIDDIQUI**

**CONVENER**

**SIDDHIQ  
PAWASKAR  
GENERAL  
SECRETARY**

**AADITYA JADHAV  
TREASURER**

**OMKAR KEER  
OPERATIONS  
SECRETARY**

**AISHWARY KAKODKAR  
EVENT MANAGEMENT  
SECRETARY**

## BEHIND THE SCENES: OUR EDITORIAL TEAM

**ADVISOR**

**PROF. REHAN SIDDIQUI**

**STUDENT EDITORS**

**HRISHIK KAUSHIK  
SHUBHAM MAHINDRAKAR**

**SIDDHIQ PAWASKAR  
OMKAR KEER**

MCT  
MANJARA CHARITABLE TRUST  
RAJIV GANDHI INSTITUTE OF TECHNOLOGY, MUMBAI  
DEPARTMENT OF MECHANICAL ENGINEERING

# RGIT'S MESA



**rgitsmesa**



**RGIT's Mechanical Engineering  
Student Association**



**rgitmesa@gmail.com**



**rgitmesa.com**