



RHAPSODY PRESENTS

FR. C. RODRIGUES INSTITUTE OF
TECHNOLOGY, VASHI

(AN AUTONOMOUS INSTITUTE PERMANENTLY AFFILIATED TO UNIVERSITY
OF MUMBAI)

ANNUAL
NEWSLETTER

2023-2024

MESSAGES



Rev. Fr. Peter D'souza
Managing Director

Fr. Conceicao Rodrigues Institute of Technology has established itself as an exemplary centre of quality education, leading to the holistic development of its learners.

In its constant endeavour to equip the learners to the swiftly evolving demands of industries and their modern challenges, as well as to promote their industry readiness and their employability skills, the institution has sharply focused on developing the soft skills of its students, like communication skills, creative and critical thinking; initiatives and self-direction; leadership and responsibility; collaboration as well as social and cross-cultural interaction skills.

Blissfully, FCRIT has embraced diversity, equity and inclusivity into its culture with highest regard for all, and thus creating a sense of belongingness, values and meaningfulness in the life of all its students, faculty and staff.

FCRIT shall continue to maintain its high standards and its effective and meaningful collaboration with communities and industries as well as face all future challenges with poise and courage.



Dr. S. M Khot
Principal

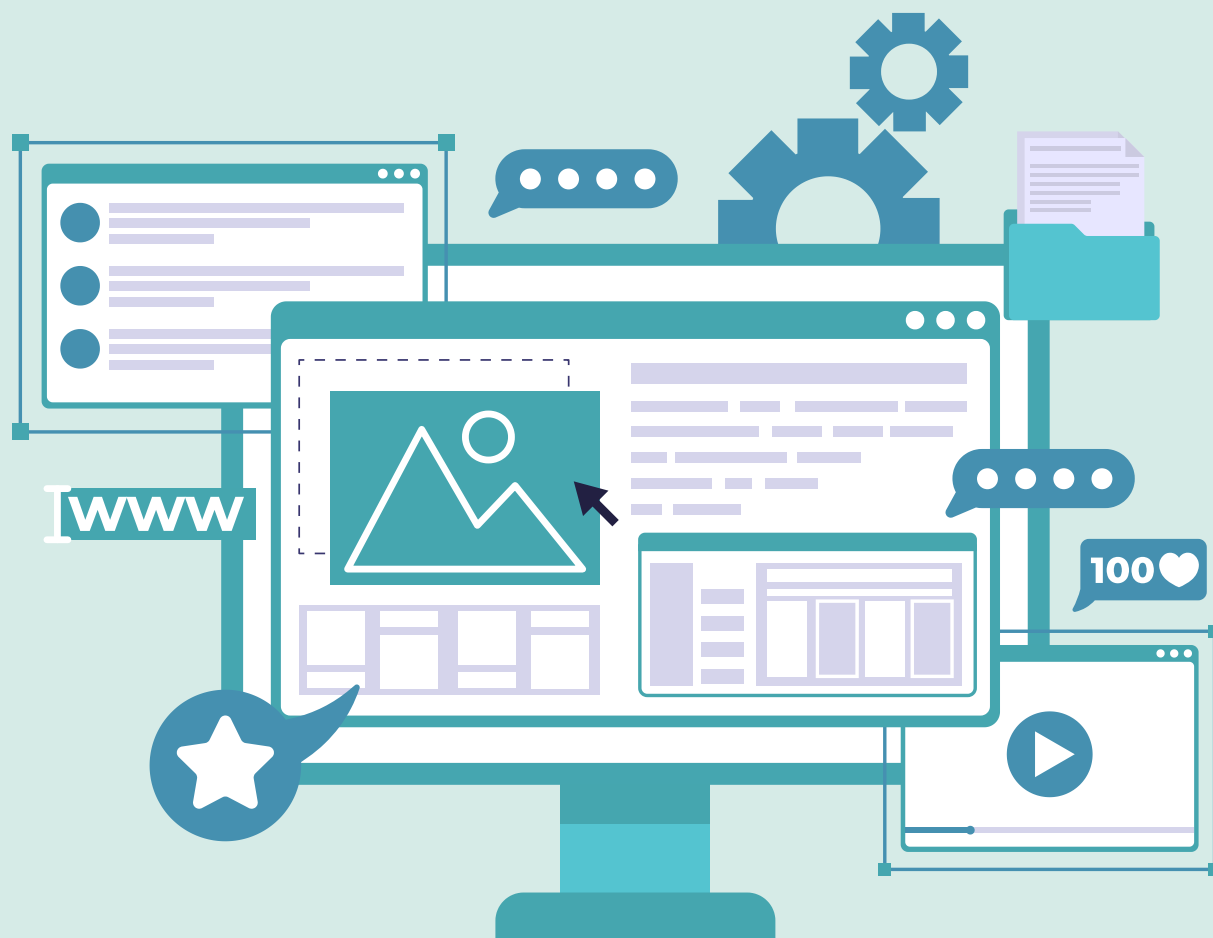
Fr. Conceicao Rodrigues Institute of Technology (Fr. CRIT), one of the top engineering colleges, strongly believes in nurturing their students to create builders of the nation. We not only impart academic education, but also inculcate in our students the knowledge that they have the power to create a better tomorrow.

We, as an institute, believe strongly in the holistic development of each and every student of our institute. No one is left behind. Every child is given an opportunity to regenerate and enhance his individual skills and academic quotient. We believe that every student is unique and needs to be nurtured in a comprehensive manner. We have managed a fine balance between providing academic knowledge and bolstering their finer skills.

Our institute stands by its mission of churning out well-rounded individuals and thorough professionals.



***Departmental
Activities***



Computer Department



Computer Department

Research and Development Activities:

The Computer Department conducted several activities throughout the semester. A seminar on Intellectual Property Rights, initially scheduled for September 23, was postponed and successfully held on December 22, 2023, with the report uploaded. A collaborative quality initiative with TIFR resulted in a visit report (corrected for September 12, 2022) being uploaded. Ongoing need-based projects are still under development, and reports have not been prepared.

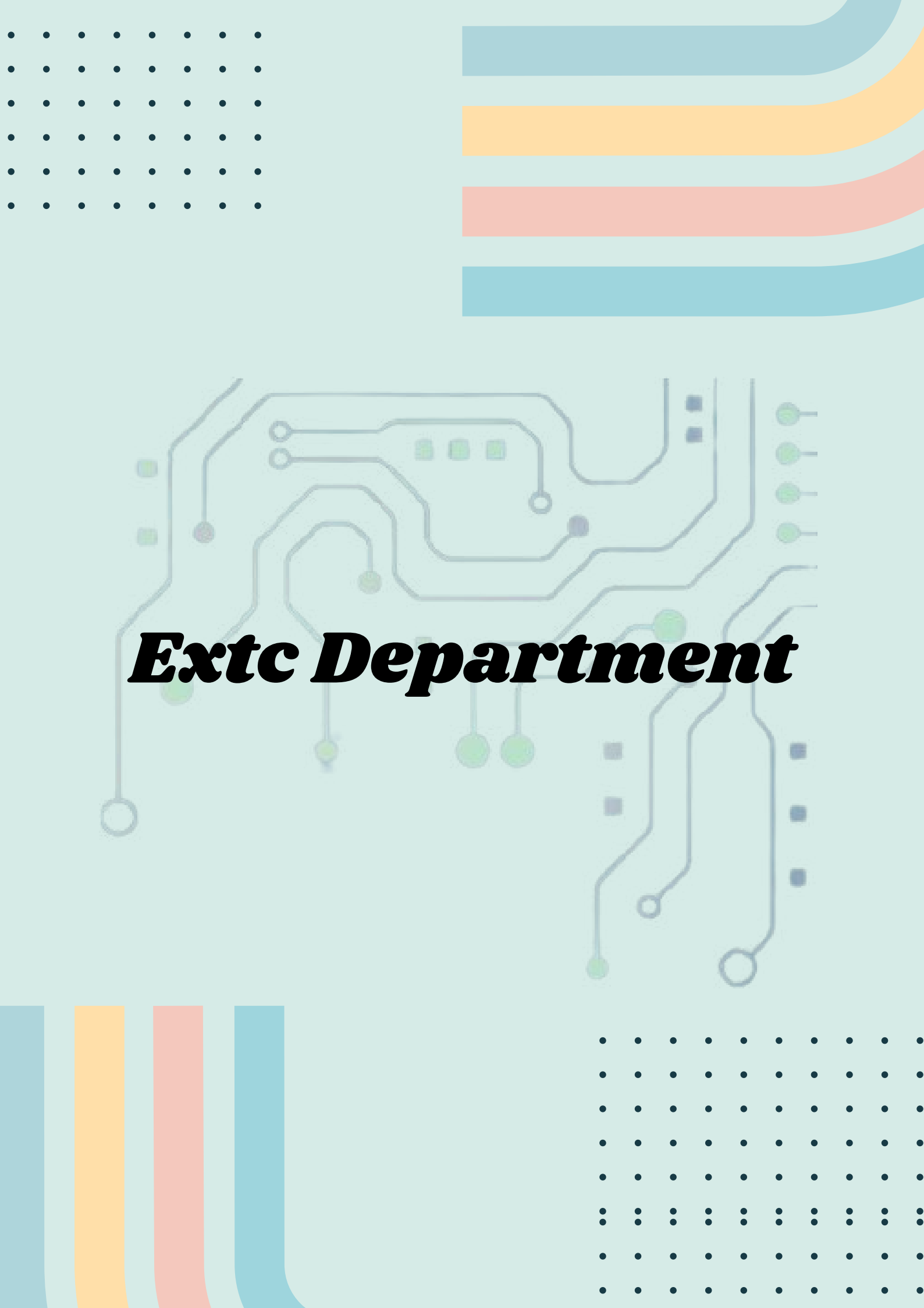
Extra-Curricular and Co-curricular Activities:

The Computer Department conducted various activities focusing on current trends and career opportunities:

1. **Workshops on Current Trends:** Two workshops were held in July 2023, overlapping with the teaching-learning process. The reports were updated and uploaded.
2. **Seminars:** A seminar on "Career Opportunities in Data Science" was conducted in October 2023, with the corrected report uploaded. A September 2023 seminar overlapped with another workshop and was updated.
3. **Coding Competitions:** Conducted in August 2023, though the feedback summary was initially incomplete; the report has since been corrected and uploaded.
4. The department conducted activities under CSI, including a **Technical Paper Presentation** on February 23 and a **Hackathon** on March 4–5. Reports for both activities have been uploaded. Enhancements needed include adding sample feedback summaries, resource persons' designations and details, and captions for the associated photos.

Placement Related Activities

The department organized two sessions for student development: a **Career Counselling Session** (tentatively scheduled for February 2023) and a **Higher Studies Session** (tentatively in March 2023). Both activities were successfully conducted, and reports were uploaded for review.



Extc Department

EXTC Department

Research and Development Activities:

The EXTC Department organized a faculty talk focused on product-oriented research and facilitated interactions between undergraduate students and PhD scholars in the department. Both activities were completed as planned, with approvals noted.

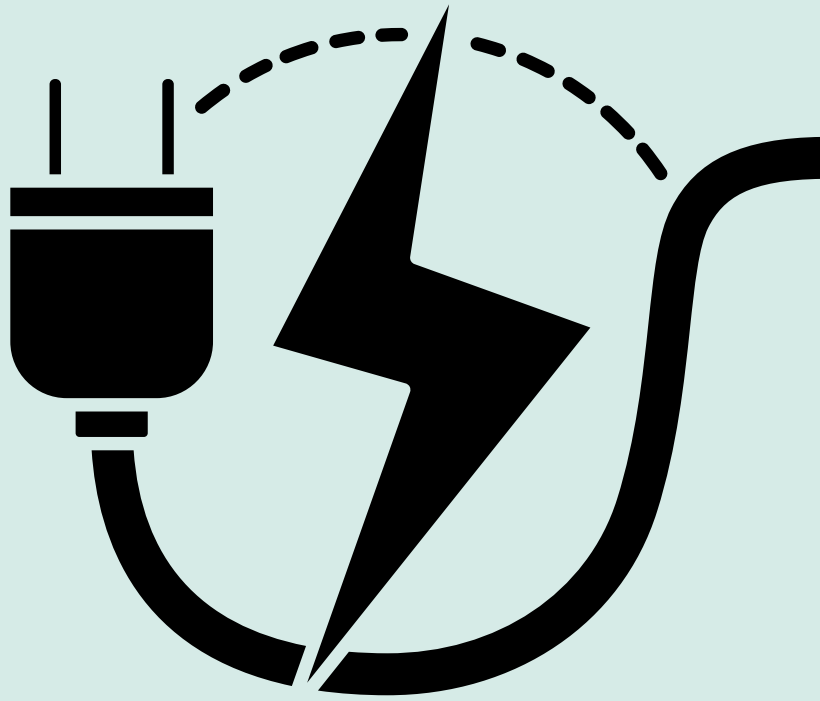
Extra-Curricular and Co-curricular Activities::

1. **Technical Talk and Workshop:** Both held on September 2, 2023, under Dr. Prasad's guidance. Reports were updated, though the timing overlap for students in both programs was noted.
2. **Circuit Design Activity:** Held on January 13, 2023. Feedback, resource persons' designations, and captions for photos need to be added to the report.
3. **Best Project Competitions:** Report for AY 22-23 has been submitted but requires clarity improvements.
4. **Industrial Visit:** Conducted on February 1, 2023, at SEBI_TE.

Placement Related Activities

The department organized multiple sessions as per their timetable:

1. **Higher Studies and Career Counselling Sessions:** Reports were submitted, with recommendations to include notices at the start of the report for clarity.
2. **Interaction of Placed Students with Juniors:** Encouraged junior-senior knowledge sharing.
3. **Resume Writing and Aptitude Test Sessions:** Reports noted that some pages were unreadable and needed corrections for clarity.



Electrical Department

Electrical Department

Research and Development Activities:

The Electrical Department held a seminar on idea design and product development in the last week of July 2023. Reports were completed, and geo-tagged photos were captioned to provide context.

Extra-Curricular and Co-curricular Activities::

1. **Visits and Seminars:** A visit to CIBA-Vashi (July 2023) and seminars on motivational topics, green building, and industrial safety were conducted in September 2023. Reports were updated to the new template.
2. **Competitions and Workshops:** The poster design competition was canceled due to low registrations. A STEM education workshop for school students was successfully held on August 31, 2023.
3. **Railway Electrification Design Workshop:** Conducted in February 2023 under EESA.
4. **Seminar on Electrical Safety by MSEDCL:** Held on January 12, 2023.
5. **Course on LATEX:** Conducted between January and March 2023 under IEI.
6. **Webinar on Sound Recording in Films:** Organized by IEEE in February 2023. Reports for all activities remain pending and require comments.

Placement Related Activities

1. **Placement Test Sessions for SE and TE Students:** Conducted on all working Saturdays. Suggestions included including photos for documentation.
2. **Seminar on Government Job Opportunities:** Held in February 2023. Mock interviews were conducted for students not yet placed, addressing placement gaps



Mechanical Department

Mechanical Department

Research and Development Activities:

The Mechanical Department initiated industrial consultancy projects in collaboration with industries like Fluid Valves, Nilkamal, Kadant, and Crystal Industrial. These projects began in January/April 2023 and will remain valid until December 2023 or March 2024. Additionally, need-based projects for final-year students are ongoing, with updated reports uploaded. Relevant details and captions have been added to geo-tagged photos.

Extra-Curricular and Co-curricular Activities::

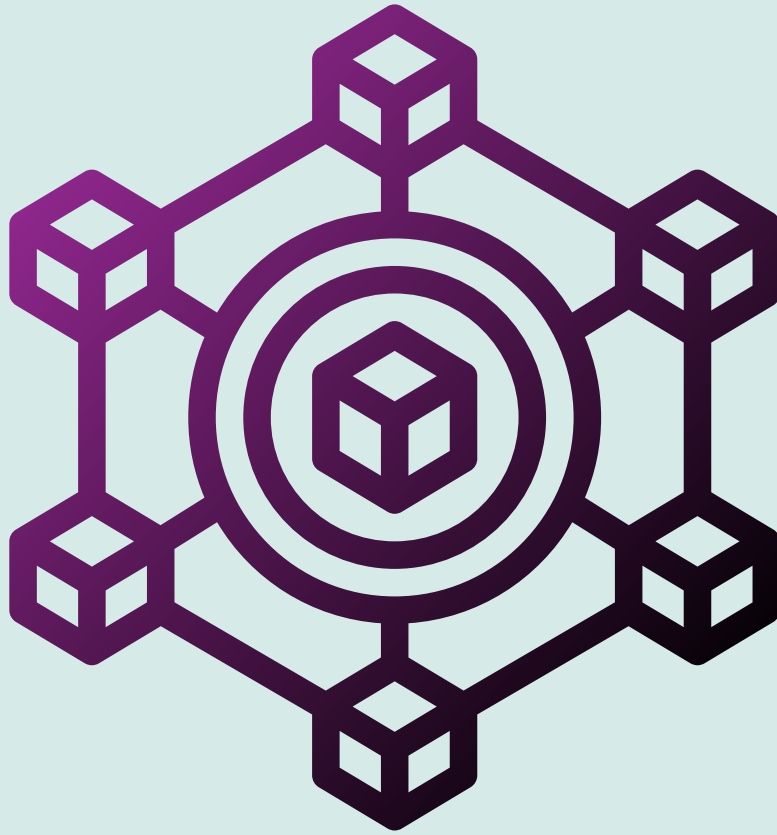
The Mechanical Department undertook diverse initiatives, from training to competitions:

1. **Welding Training Programs:** Conducted two sessions in August and October 2023; corrected reports were uploaded.
2. **Industry Visits:** Visits included ISHRAE (September 6), Goa (August 25), and other locations like Crystal Industrial Syndicate and ELCA Lab. Missing captions for geo-tagged photos and attendance sheets were addressed in reports.
3. **Seminars and Webinars:** Topics like personal development, GRE preparation, and space research were covered. Notable activities included "Success Mindset" (October 2023) and "Automobile Field" (October 2023).
4. **Competitions:** Participated in SAE BAJA, SAE ADC, and SAE ADDC. Reports for events in July, August, and October 2023 were updated.
5. **Seminar on Manufacturing Domain:** Scheduled for May 2023 as planned.
6. **MESH 2K23 & CALIBRE 2K23:** Feedback awaited.
7. **TORQUE 2023:** Held successfully, and the report has been uploaded.
8. **Industrial Visit:** Permission from the industry was not granted.
9. **Automobile Workshop/Seminar:** Conducted, and the report is uploaded. The title may need revision.
10. **SAE INDIA BAJA 2023 Competition:** Report uploaded.
11. **Drone Development Challenge (DDC):** Team registration is complete; competition is in August 2023.
12. **ISHRAE Job Junction:** Scheduled post-End Semester exams.
13. **Other Activities:** Yoga sessions, ISHRAE Students Day, and guest lectures enhanced student engagement. Missing details in reports, such as attendance and captions, were corrected.

Placement Related Activities

1. **Technical Aptitude Test for SE and TE Students:** Conducted during the first half of 2023. Feedback and designation details of the resource person were requested for better reporting.

2. **Career Counselling for Second-Year Students:** Organized in January 2023, with the report uploaded. Suggestions were made to include feedback and resource person details for clarity and impact analysis.
3. **Refresher Course for Final-Year Students:** Weekly sessions were held throughout the semester. It was suggested to reframe the title as *Engineering Basic Training Program for Placement* to align with assessment criteria. Feedback and placed student details were noted for impact evaluation.
4. **Webinar on Competitive Exams (GATE):** Scheduled for the last week of June 2023. Preparations are ongoing.



IT Department

IT Department

Research and Development Activities:

The IT Department conducted a seminar on entrepreneurship on August 25, 2023, as planned. Additionally, need-based projects and collaborative quality initiatives with TIFR were completed throughout the semester. All activities were successfully documented, with reports uploaded.

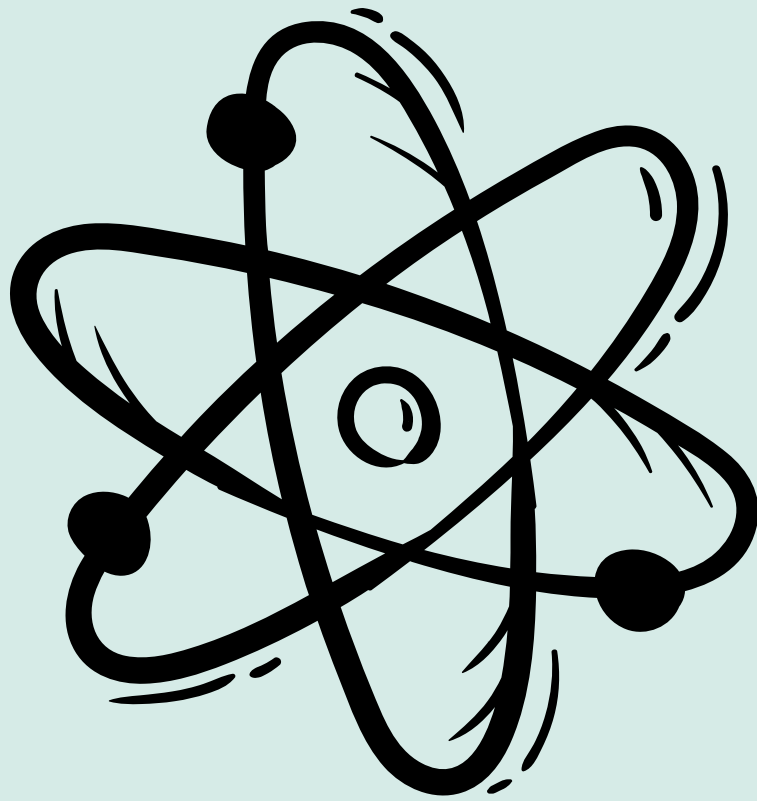
Extra-Curricular and Co-curricular Activities::

1. **Seminars and Workshops:** Conducted on August 4, 2023, focusing on recent and emerging technologies. Reports were uploaded with no issues.
2. **Coding Competition:** Held on August 2, 2023, and reports were finalized.
3. **Quantum Computing:** Conducted on March 4, 2023.
4. **Amazon Web Services:** Held on March 16, 2023.
5. **Scalability Issues in Mobile Apps:** Conducted on March 17, 2023.
6. **Blockchain Technology:** Held on March 18, 2023.
Reports for all activities have been uploaded but need to include sample feedback summaries.

Placement Related Activities

Three student-oriented activities were successfully organized:

1. **Session on Guidance for Competitive Examinations:** Held on February 15, 2023. The report was uploaded.
2. **Session on Higher Studies:** Conducted on February 8, 2023. The report is available.
3. **Aptitude Test:** Organized on February 11, 2023. Photos were deemed unnecessary for this event, but the summary report was uploaded.



***Humanities And Basic
Science***

Humanities and Basic Science Department

Research and Development Activities:

This department organized a poster-making and presentation activity on "Intellectual Property Rights and Case Studies" for Semester 5 students. The activity aimed to enhance awareness of intellectual property concepts among students.

Societal Activities:

The Humanities & Basic Science Department successfully conducted the following sessions for First-Year Engineering (F.E.) students:

1. Session on Yoga Practices
 - Objective: To promote physical and mental well-being among F.E. students through yoga.
 - Key Highlights: Covered stress management techniques, focus improvement strategies, and overall health enhancement.
2. Awareness Programme on Code of Conduct
 - Objective: To acquaint F.E. students with the institution's rules, regulations, and ethical guidelines.
 - Key Highlights: Explained behavioural expectations, discipline, and the importance of maintaining a respectful academic environment.

These sessions aimed to support the holistic development of students and facilitated their smooth transition into the engineering program.

Placement Related Activities:

The Humanities & Basic Science Department has planned the following session for First-Year Engineering (F.E.) students, which will be scheduled in alignment with the commencement of Semester I:

1. Session on Language and Communication Skills Enhancement
 - Objective: To improve the language proficiency and communication skills of F.E. students.
 - Focus Areas: Developing verbal and written communication, public speaking, and professional interaction skills.

This session aims to equip students with essential communication abilities to support their academic and professional growth.



Student Activities



National Service Scheme (NSS)

The National Service Scheme (NSS) is a Central Sector Scheme of Government of India, Ministry of Youth Affairs & Sports. It provides opportunity to the student youth of Technical Institution, Graduate & Post Graduate at colleges and University level of India to take part in various government led community service activities & programmes. The sole aim of the NSS is to provide hands on experience to young students in delivering community service.

Beach Cleanliness Drive



Outcome:

Volunteers reported a profound sense of fulfillment and personal growth, after participating in the mangrove cleanup drive. Witnessing the transformation of the mangrove ecosystem firsthand, they developed a deeper appreciation for the environment and their role in preserving it. Many volunteers expressed feeling a renewed sense of purpose and commitment to environmental stewardship. By actively engaging in the cleanup effort, they not only contributed to the restoration of the mangroves but also experienced a positive shift in their own lives, embracing a greater sense of responsibility towards nature and fostering a stronger connection to their community.

Blood Donation Camp (ETAMAX)



Outcome:

A total of 144 people donated blood during the camp. The donors included students, faculty, and staff members of FCRIT. The camp was successful in achieving its objectives of promoting voluntary blood donation and raising awareness about the importance of donating blood.

AEROFCRIT Aeromodelling Club

Overview:

We specialize in designing, building, and testing fixed-wing UAVs and drones, with a primary focus on SAE DDC and ADDC competitions. These competitions condense a full year of aircraft development, emphasizing system engineering and collaboration among members from different disciplines. Our goal is to provide students with a rich learning journey, fostering technical expertise and management skills. With a team of about 15 members each and 2 faculty advisors we aim to make significant advancements, staying at the forefront of the field and contributing to the future of aviation through superior aircraft and valuable societal impact.

Team Garuda

Founded in 2019, Team Garuda provides opportunities to showcase extraordinary talents to conceive, design and develop a prototype of a fixed-wing UAV. Both Mechanical and Electrical departments contribute to the team.



Team Garuda during 2024 DDC aircraft testing at Kharghar

Team Thestral

Founded in 2023, Team Thestral serves as a platform for students to demonstrate their exceptional skills in conceptualizing, designing, and building a drone prototype. All Five departments contribute to the team.



Team Thestral at 2024 ADDC Event in Chennai

Our Rankings:

SAE DDC 2024 – Yet to Participate
SAE DDC 2023 – AIR 6 Overall Ranking
AIR 3 in Technical Presentation Round
SAE DDC 2022 – AIR 10 Overall Ranking

Outcomes – Gain skills on aircraft designing, CAD Modelling as well as FEA and CFD. Get Knowledge regarding aerodynamics, aircraft structures along with hands on fabrication using different materials and tools. Learn regarding Electric Propulsion systems and their working and applications to the UAV.

Our Rankings:

SAE ADDC 2024 – Result Yet to Announce
SAE ADDC 2023 – AIR 1 Overall Ranking

Outcomes – Gain skills on drone designing, CAD Modelling, Design Analysis, Automation systems etc. Get Knowledge regarding mechanical structures along with Electric Propulsion systems. Also learn regarding autonomous drones and the electronics involved in it. Apart from this one can also get to learn flying the drones manually.

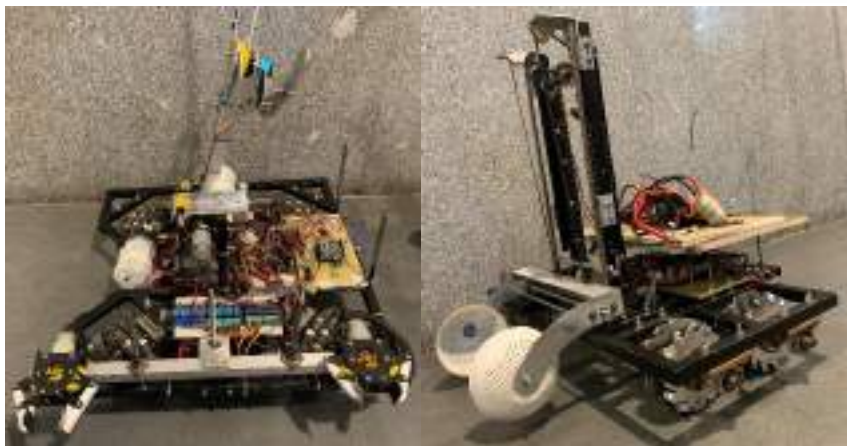
AGNEL ROBOTICS CLUB

Overview:

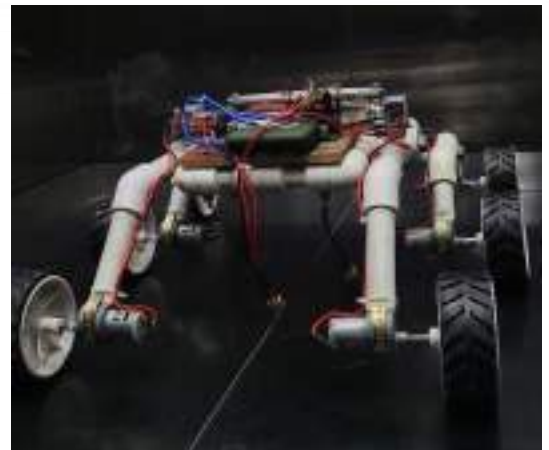
Agnel Robotics Club is interdisciplinary team of all branches working together to learn, design and build Bot where we compete in national and regional events based on Robotics, Automation and Rovers with team of 25 students of different skills like CAD modelling, coding and electronics, etc. which gives comprehensive knowledge about Electronics, Mechanical and Programming while we guide other students via workshops.

Events and Performed:

- DD National Robocon: DD Robocon 2024, organized by IIT Delhi and Prasar Bharati, is a national robotics competition for college students in India. It challenges teams to design and build robots that perform complex tasks aligned with an annual gamified theme which tries to tackle real life objective, fostering innovation and technical skills among participants.
DD Robocon promotes technical skill development, innovation, and teamwork among engineering students, providing visibility and recognition in the field of robotics.
- Stage 1: Submission of solution ideas– 96/100.
- Stage 2: Proof of concept– 72/100.
- National Rank – 30.
- IRoC-U from ISRO:
In order to provide a greater opportunity for the students of the country to provide innovative solutions in the area of space robotics ISRO held this event. The solutions provided by the students in IRoC-U 2024 have the greater chances of getting incorporated into ISRO's future interplanetary robotics missions.
IRoC-U 2024 consists of an engineering project where the institutional teams build robots to compete on an extra-terrestrial inspired arena, performing tasks based on real life challenges faced by space robotics. It will help co-develop (students and ISRO) future technologies needed in the area of space robotics.



DD Robocon Bots



IRoC-U Rover

Other Work:

We conduct different events at Etamax and workshops for anyone from college at nominal fees.

- PCB manufacturing workshop.
- Arduino interfacing workshop.
- Robomaze competition (Fun event).



Team Kaiser Racing

Overview:

Team Kaiser Racing is a dynamic collegiate club dedicated to designing, engineering, and manufacturing all-terrain vehicles (ATVs) for national and international competitions. Our team of 25-30 members and 2 faculty advisors at FCRIT combines innovation, technical expertise, and a passion for off-road racing to build competitive ATVs. By participating in these events, we aim to foster practical engineering skills and teamwork among our members.



BAJA SAEINDIA 2023-24
Pithampur, India



BAJA SAEINTERNATIONAL 2023-24
California, USA

Highlights:

- **Innovative Engineering:** Team Kaiser Racing leads in designing and manufacturing cutting-edge all-terrain vehicles (ATVs) for competitive racing on national and international platforms.
- **Competitive Success:** Consistent participation in prestigious competitions, where Team achieves commendable rankings.
- **Our Rankings:**

BAJA SAEINDIA 2023-24:

AIR 21/86 teams
AIR 03 in Build Quality
AIR 04 in Design Evaluation
AIR 06 in Static Events

BAJA SAE California, USA 2023-24

Overall 44 / 61 teams
22nd in Cost Event
34th in Acceleration Event
38th in Endurance Race

Outcomes:

- **Industry-Ready Skills:** Gain hands-on experience in designing, fabricating, and testing all-terrain vehicle, equipping you with practical skills highly valued by the automotive and engineering industries.
- **Technical Proficiency:** Improved technical proficiency in areas such as CAD design, machining, welding, and vehicle dynamics, making you adept in modern engineering practices.
- **Leadership and Teamwork:** Develop crucial leadership and teamwork abilities by working in multidisciplinary teams, preparing you for diverse roles in your future career.



MESA FCRT

SYNERGY 2023: A Vibrant Fusion of Knowledge and Inspiration

Overview:

Date: 6th September 2023 | Venue: AX-116 & AX-216

In a dazzling fusion of academia and industry, the Mechanical Engineering Department hosted the vibrant SYNERGY 2023 on September 6, 2023. With 329 students and 18 faculty members, the event sparkled with Aker Solutions' elite.

Highlights:

Mission Marvel: SYNERGY 2023 embarked on a mission to bridge academia and industry, unveiling the magic of current industry trends to eager students.

Aker's Allure: Aker Solutions' maestros, with expertise in static equipment, piping layouts, and more, added a touch of enchantment to the event.



DIGNITARIES FOR SYNERGY 2023

Outcomes:

- SYNERGY 2023 lit up the Mechanical Engineering Department, leaving behind a trail of inspiration.
- This triumph reflects our commitment to an education that transcends, sparkles, and embraces the magic of collaboration between academia and industry.

Eco Club

Overview:

Eco Club is an energetic club committed to promoting environmental sustainability and awareness through various activities and initiatives. Recently, the club organized a Clean-Up Drive at Mangrove Walk, Airoli, on 25th February 2024, involving 38 participants along with faculty co-ordinators Dr Pranali Choudhari and Dr Snehal Kargirwa, student members, and volunteers from the Beach Please Youth-club Organization.



Highlights:

- The Eco Club members, participants, and faculty coordinators gathered at the Airoli Mangrove Clean-Up location at 10 AM on 25th February.
- The clean-up drive was organized in collaboration with the 'Beach Please' Youth-Club, which has been active in environmental conservation since 2017 and has conducted over 500 beach and mangrove clean-ups.
- Beach Please volunteers provided instructions, gum boots, and gloves to all participants, who then divided into small groups and collected nearly 20 bags of plastic waste over two hours.
- The event concluded with the gathered waste collected at a single spot, followed by refreshments provided by Beach Please after the volunteers cleaned themselves up.

Outcomes:

- Contributed to the health and well-being of the Airoli Mangroves by removing harmful debris and pollutants.
- Raised awareness among participants and the broader community about the importance of mangrove conservation.
- Educated participants about the specific threats faced by the Airoli Mangroves and the types of waste impacting them.
- Fostered a sense of environmental responsibility and encouraged participants to take action for a cleaner and healthier planet.



E- Cell

Overview:

On 6th March 2024, the E-Cell Club at FCRIT organized two events: a Model United Nations (MUN) and an IPL Auction. The MUN, held in the Conference Hall, involved 11 students from various disciplines and focused on international trade negotiations and WTO policymaking. Meanwhile, the IPL Auction in the Diploma Hall featured 37 student teams. It aimed to develop strategic thinking, resource management, and decision-making skills by simulating the IPL auction, enhancing participants' understanding of business and management principles. Both these events were coordinated by Sameer Bharambe and overseen by Prof. Trupti Lotlikar.



Model United Nations



IPL Auction

Highlights:

- The event provided a unique platform for participants to simulate the activities and decision-making processes of the World Trade Organization (WTO).
- Participants engaged in diplomatic role-play, assuming the roles of diplomats and stakeholders.
- The IPL Auction Competition at the Agnel E-Summit provided an exhilarating experience where strategy intersected with entrepreneurship.
- Participants immersed themselves in the role of team owners, navigating the complexities of the auction process.

Outcomes:

- The WTO MUN simulation allowed participants to develop negotiation skills and diplomatic acumen.
- The conference enhanced understanding of global trade dynamics and international trade governance.
- Participants experienced virtual cricket management, leveraging strategic acumen and cricket knowledge.
- The IPL Auction Competition provided a unique opportunity for cricket enthusiasts with an entrepreneurial mindset to test their skills.

Faculty Achievements



Name: Dr. Smita Dange

Designation: Assistant Professor

Department: Computer Engineering

Topic: Multilayered Security

Approach for Internet of Things

Name: Dr. Archana Abhijeet Shirke

Designation: Assistant Professor

Department: Information Technology

Topic: Investigation of policies for
Resource Optimization in IoT

Got Phd in 2023





STUDENT COUNCIL



2023-24



Faces And Etamax



EDITORIAL BOARD

CHIEF EDITOR : DR. GEORLY.P. JOY
(ASSISTANT PROFESSOR)

BOARD MEMBERS : TABIN QADRI
SWAYASH GIAKWAD
RAJ KAMBLE
VAIBHAVI MHATRE
GHRITIKH MAHESH

EDITORS : MRUNMAYI KHEDKAR
ARYAN KADAM
SHARVARI WETHEKAR
RONIT SALI