



RAJADHANI INSTITUTE OF ENGINEERING AND TECHNOLOGY

Rajadhani Hills, Nagaroor, Attingal, Thiruvananthapuram,
Kerala, India 695102.
www.riet.edu.in



College code : RIE



DEPARTMENT OF MECHANICAL ENGINEERING

Established in 2009 with an initial intake of 60 students, the Department of Mechanical Engineering has consistently maintained a position of excellence among the engineering disciplines affiliated with APJ Abdul Kalam Technological University (KTU). The department offers a comprehensive Bachelor's degree program in Mechanical Engineering that continues to attract highly meritorious students. A team of dedicated and experienced faculty members fosters a vibrant academic and research environment, ensuring continued growth and innovation.

The department is equipped with advanced infrastructure, including modern laboratories, well-designed seminar and drawing halls, and a dedicated departmental library, all supporting effective teaching and learning. To enhance professional engagement, the department hosts both student and faculty chapters of the Indian Society for Technical Education (ISTE) and the SAE India Collegiate Club. The curriculum and activities are designed to enhance students' employability across diverse industry sectors. In addition, the department has signed Memorandum of Understanding (MoUs) with leading organizations such as Inter CAD Systems Pvt. Ltd., Barola Technologies, Taneja Aerospace and Aviation Limited, Barola Aeroports, CADD Centre, and MAKS Automations Pvt. Ltd. These collaborations aim to provide students with valuable exposure to industrial practices and emerging technologies, bridging the gap between academic learning and professional applications.

Voice of ACME

Institute Vision

Groom the Youth as Innovative, Creative and Empathetic Technologists, Hospitality Professionals, Managers and Entrepreneurs for Social Transformation.

Institute Mission

- M1 : To encourage holistic development of students with well balanced curricular, co-curricular and extra-curricular activities.
- M2 : To promote ethical and value-oriented teaching, research and consultancy among faculty and students for social transformation.
- M3: To interact with industrial organizations, governmental agencies, engineering, hospitality, and business enterprises for collaborative learning.

Department Vision

To be a preferred destination to produce technocrats in Mechanical Engineering fostering academic excellence, research, industry readiness with human values for social transformation.

Department Mission

- M1 : To impart quality education through activity based learning and leading -edge technology.
- M2 : To provide holistic education inculcated with research activities, human and ethical values, societal and industrial commitment, personality development and team spirit
- M3 : To foster strong industry- institute interaction to develop employable skills and enrich experiential learning through capstone projects.



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Program Specific Outcomes (PSOs)

- Mechanical Design – Capable to Design Mechanical Systems with updated software tools and equipment's/Processes to meet desired Specifications and requirements within realistic constraints to solve real time mechanical/societal problems.
- Managing Efficiency - Develop Capabilities to address the challenges in the Energy Sector and Develop Energy Efficient Systems.
- Industrial Application - Manage the Resources in an Organization more effectively and efficiently in the Dynamic Industrial Environment.

Program Educational Objectives (PEOs)

- PEO₁ : Graduate shall have strong core and interdisciplinary knowledge, skills and professional accomplishment towards employment in allied industries, higher studies and research.
- PEO₂ : Graduates shall utilize latest tools and rapidly changing technologies to analyze, design and develop sustainable systems, testing and manufacturing for real life applications
- PEO₃ : Graduates shall practice multidisciplinary approach, ethics, good communication, team spirit to evolve as competent technocrats and entrepreneurs.

Major Internships, Projects



Our Association



AURIFEROUS CHAMBER OF MECHANICAL ENGINEERING

Auriferous Chamber for Mechanical Engineering ACME is a prestigious hub at our college dedicated to fostering innovation and excellence in mechanical engineering. It serves as a collaborative platform connecting alumni, faculty, and students to share knowledge, resources, and experiences. ACME provides opportunities for mentorship, industry engagement, and cutting-edge projects, bridging the gap between academia and industry. It stands as a testament to our commitment to advancing mechanical engineering and building a thriving community of engineering professionals.



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PROGRAM OUTCOMES

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design/development of solutions: 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 environmental considerations.
4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.
5. Modern tool usage: Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and team work: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.
11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. Life-long learning: Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



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Department Activities :



Expert talk on advanced quality engineering -14/03/2023
Advanced talks on quality control is conducted in colleges to help students understand the importance of maintaining high standards in manufacturing, service industries, and business operations. These talks provide insights into the latest techniques, tools, and methodologies used to monitor and improve product quality. They equip students with practical knowledge about ensuring consistency, minimizing defects, and optimizing processes, which are essential skills in today's competitive job market. Additionally, such sessions often bridge the gap between academic theories and real-world applications, enhancing students' employability and preparing them for roles in quality management and related fields.

COLLEGE CODE
RIE

United Nations
Academic Impa

**PRECISION MANUFACTURING USING
CNC AND CAM**

IN ASSOCIATION WITH
ACME (AURIFEROUS CHAMBER OF MECHANICAL ENGINEERING)

Convenor
Dr. BINDU S S
(HOD MECHANICAL ENGINEERING)

Coordinator
Mr. KRISHNAKUMAR K
Assistant Professor (Mechanical
Engineering)

19th February 2024
Lobby Seminar Hall

Dr. VIPIN GOPAN

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ENGINEERING AND TECHNOLOGY**

Attingal, Trivandrum | 70250 77773, 70255 77773, 98470 77773 | www.riet.edu.in

The Department of Mechanical Engineering conducted a hands-on training on Precision Manufacturing at 503, Fifth Floor, RIET Main Block on 19/02/2024.. The training focused on equipping participants with practical skills and knowledge in the field of precision manufacturing, which plays a crucial role in ensuring high accuracy and quality in the production of mechanical components. Attendees had the opportunity to work with advanced tools and techniques, enhancing their understanding of precision processes in modern manufacturing. The session aimed to bridge theoretical knowledge with real-world applications, fostering technical proficiency among participants.

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Tech- Talk

by
**MECHANICAL
ENGINEERING
DEPARTMENT**

Muhammed Shemim

RSO/BARC.RT Level II
NDT ENGINEER

arAstech
ENGINEERS PRIVATE LIMITED

Class on Non-Destructive Testing (NDT) typically covers the techniques and methods used to inspect, test, and evaluate the properties of materials, components, or systems without causing any damage. The goal is to ensure the integrity, reliability, and safety of the materials or structures being inspected



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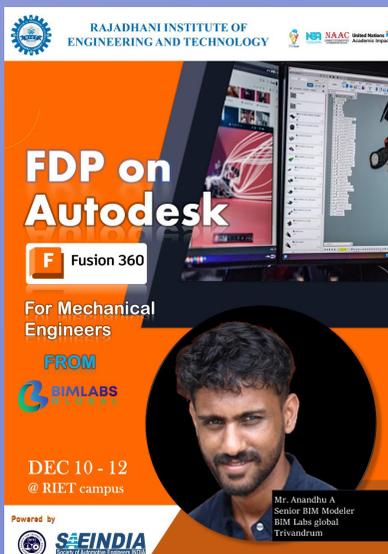
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Department Activities :



Interaction with industry experts plays a vital role in helping students deepen their knowledge in their core areas of study. In line with this objective, an Expert Talk on “Fundamentals of Automobile BS6” was organized in the college. The session was delivered by Mr. Binu S., Technical Trainer at Autobahn Akademie, on 13 February 2024. His insightful presentation provided students with a clear understanding of the BS6 emission standards, advancements in automotive technology, and the changing trends in the automobile sector.

Alumni talks provide students with valuable opportunities to connect with former students who have become successful professionals. In this regard, an interactive session was organized with the alumni of the department on 22 March 2024 to help enhance professionalism among the students. The session offered meaningful insights, career guidance, and real-world perspectives, enabling students to better understand industry expectations and prepare for their future careers.



The FDP on Autodesk for Mechanical Engineers conducted at RIET is a specialized Faculty Development Program aimed at enhancing the skills of mechanical engineering professionals in using Autodesk software. Autodesk tools, such as AutoCAD, Inventor, and Fusion 360, are vital for mechanical design, drafting, and 3D modeling. The program is designed to provide hands-on training and knowledge of the latest features and techniques in Autodesk software, helping participants improve their design capabilities, streamline workflows, and stay updated with industry standards.



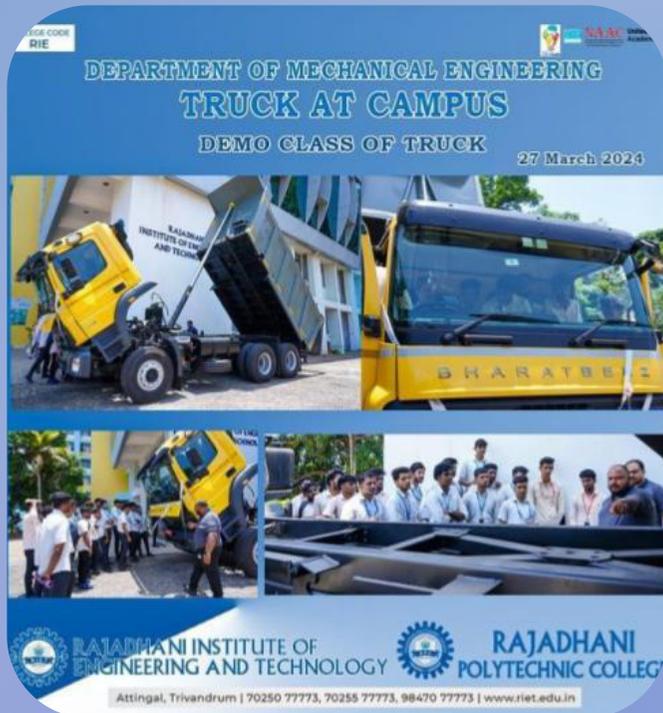
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Department Activities :



The Department of Mechanical Engineering conducted a training programme, “TRUCK ON CAMPUS” In association with BHARATBENZ, at RIET campus on 27/03/2024. The programme provided participants with an opportunity to explore the latest advancements in truck technology, maintenance, and operations. BharatBenz experts shared valuable insights into the design, performance, and safety features of modern trucks, enhancing students' understanding of the automotive industry. The hands-on experience and interactive sessions allowed attendees to gain practical knowledge and deepen their expertise in heavy vehicle engineering.



On 14th February 2024, the Department of Mechanical Engineering successfully organized a comprehensive training programme titled "Fundamentals of Industrial Automation and Job Opportunities". The event, held from 10:00 A.M. to 12:30 P.M., aimed to provide participants with essential knowledge about industrial automation technologies and their applications in various industries. Industry experts discussed the latest trends, tools, and techniques in automation, along with emerging job opportunities in this rapidly evolving field. The session offered valuable insights for students seeking to enhance their career prospects in industrial automation and related sectors.



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Celebrations :



The Holy Celebration at RIET was a vibrant and joyful event that brought together students and faculty to celebrate the festival of colors. The celebration, marked by enthusiasm and festivity, included music, dance, and the playful throwing of colors, symbolizing the arrival of spring and the triumph of good over evil. Students and staff participated in various fun activities, fostering a sense of community and camaraderie. The event not only provided an opportunity for everyone to unwind and enjoy but also helped strengthen the cultural spirit and togetherness within the RIET campus.

Industrial Visit :



On 11th March 2024, the 5th semester students of the Department of Mechanical Engineering completed their field study at Neyyar Dam. The visit provided students with valuable practical exposure to the functioning of hydraulic structures and water management systems. They had the opportunity to observe the dam's infrastructure, learn about its operational mechanisms, and gain insights into environmental sustainability practices. The field study helped bridge the gap between theoretical knowledge and real-world applications, enhancing the students' understanding of water resources engineering and its impact on society.



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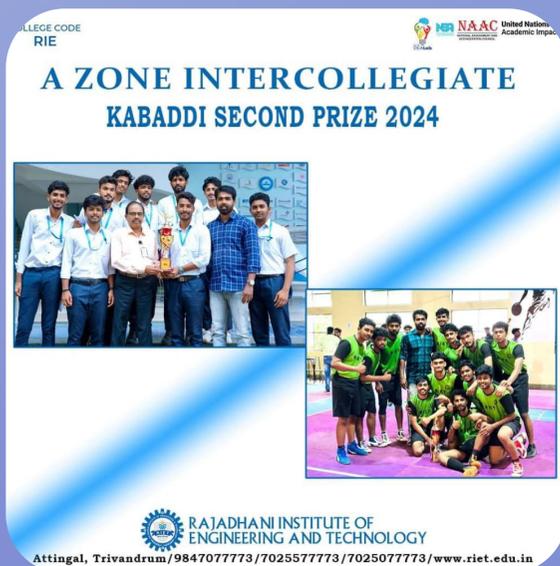


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Sports :



“Meliga,” the annual football tournament organized by the Mechanical Engineering Department, is one of the most anticipated sporting events on campus. The tournament brings together students from various branches, fostering a strong sense of camaraderie, teamwork, and healthy competition. More than just a game, Meliga serves as a platform for students to showcase their talent, leadership, and sportsmanship. The vibrant atmosphere, enthusiastic participation, and collective spirit make the event truly memorable each year. Meliga 2024 continued this tradition with remarkable energy, uniting the college community and celebrating the passion for sports.



Our department students achieved remarkable success by securing the runner-up position in the 2024 Zone Kabbadi Competition. This outstanding accomplishment stands as a testament to the team’s unwavering dedication, disciplined practice, and exemplary sportsmanship. Throughout the tournament, the players displayed exceptional skill, strategic thinking, and remarkable resilience, even when facing highly competitive and challenging opponents. Their coordinated teamwork, strong determination, and consistent performance not only earned them a place among the top teams but also brought pride and recognition to our department. This achievement reflects the collective hard work of the athletes, coaches, and support staff who contributed to the team’s journey.



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Student Achievements :

RAJADHANI INSTITUTE OF ENGINEERING AND TECHNOLOGY
NAAC NEA United Nations Academic Impact

DEPARTMENT OF MECHANICAL ENGINEERING

S1 Toppers

 Aadithyan B SGPA:8.03	 Muhammed Naif SGPA:7.91
 Adwaith S SGPA:7.26	

2024 S1 Toppers 24-27 Batch

Department of Mechanical Engineering
S7 Toppers (2020 - 2024)

Congratulations

 Akshay M S Sgpa : 9.0	 Amal A Sgpa : 8.9	
 Harikrishnan M Sgpa : 8.7	 Athul M Murali Sgpa : 8.47	 Prithviraj B Sgpa : 7.83
 Aswin S Sgpa : 7.67	 Skandhan S S Sgpa : 7.67	

Congratulations

2021-24 Batch S7 toppers

Semester Toppers:



Akshay MS with SGPA- 9.0 (S7)



Adhithyan TS with SGPA-8.26 (S5)



Vaishnav SS with SGPA-7.86 (S3)



Adhithyan B with SGPA- 8.03 (S1)



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Feedbacks :

Alumni provide valuable perspectives on how well the program prepared them for their careers. This helps current students understand what skills or knowledge they might need to develop and gives them a clearer picture of potential career opportunities.



The foundation of my engineering career was firmly established at the Mechanical Engineering Department of Rajadhani Institute of Engineering and Technology (RIET), Attingal. The department's robust curriculum and emphasis on quality engineering principles have proven instrumental in my role as a Production Quality Engineer at Northvolt Ett, Sweden. The practical knowledge and analytical skills gained during my B.Tech program, combined with the department's focus on manufacturing processes and quality control, have been invaluable in meeting the demanding standards of battery production at Northvolt. I attribute much of my professional success to the strong technical foundation and problem-solving mindset cultivated during my time at RIET.

Ashwin J Wilson
Production Quality Engineer
Northvolt Ett
Skellefteå, Sweder



My journey at the Mechanical Engineering Department of Rajadhani Institute of Engineering and Technology (RIET), Attingal, equipped me with the perfect combination of theoretical knowledge and practical skills that drive my success today. The department's excellent faculty, well-equipped laboratories, and industry-focused curriculum have proven invaluable in my current role as a Procurement Engineer at Oxypro ElectroMechanical Works LLC, Dubai. The problem-solving abilities and technical expertise I gained during my B. Tech program continue to be assets in my professional career.

Mohamed Thariq N
Procurement Engineer
Oxypro ElectroMechanical Works LLC
Dubai, UAF



Studying Mechanical Engineering at Rajadhani Institute of Engineering and Technology, Nagaroor (2019–2023 batch) was a transformative journey that laid the foundation for my professional career. The department's strong focus on academic excellence, practical exposure, and innovation helped me develop both technical competence and critical problem-solving skills. The faculty were immensely supportive, constantly encouraging us to go beyond textbooks and engage in real-world applications through hands-on labs, workshops, and industry-linked projects. Today, as a Junior Design Engineer at Smart Engineering Design Solutions, I continue to benefit from the solid foundation and values instilled in me at RIET. I am proud to be an alumnus of an institution that truly nurtures and shapes future engineers."

– Abhay Krishnan A
Junior Design Engineer
Smart Engineering Design Solutions



My journey through the Mechanical Engineering program at Rajadhani Institute of Engineering and Technology, Nagaroor (2019–2023 batch) was a pivotal experience that shaped my professional identity. The institution provided an ideal blend of theoretical grounding and practical exploration, which greatly contributed to my growth as an engineer and innovator. The supportive faculty, access to modern labs, and focus on industry-oriented learning enabled me to build a strong foundation in design, fabrication, and innovation. These experiences continue to fuel my work as a FabLab Specialist and Innovation Ambassador at REVA University. RIET didn't just teach me engineering—it empowered my passion to build, train, and inspire."

– Sree Hari Arun
FabLab Specialist | Innovation Ambassador (IA)
REVA University



The Mechanical Engineering program at Rajadhani Institute of Engineering and Technology, Nagaroor (2019–2023 batch) played a crucial role in shaping my professional journey. The curriculum was comprehensive, combining theoretical concepts with practical applications that prepared me for the real-world challenges of the engineering industry. The faculty's guidance and the exposure to industry-relevant tools and practices helped me build a solid foundation in estimation, design, and analysis. Today, as an Estimation Engineer at Petrosafe Specialized Piping LLC, I continue to apply the knowledge and values instilled in me at RIET, and I remain grateful for the discipline and direction the institute provided."

– Gopu S
Estimation Engineer
Petrosafe Specialized Piping LLC



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Collage Fest :



As a part of the ITIHA, the Mechanical Engineering Department organizes an exhilarating Auto Show. This event highlights the innovation and creativity of students, featuring a display of automobiles ranging from vintage models to futuristic designs. The show includes live demonstrations of vehicle mechanisms, student-built prototypes, and sustainable automotive solutions. It serves as a platform for students to showcase their technical expertise and passion for automobiles while inspiring the audience with advancements in automotive technology.





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Student Conference Publications

1. Amal S Kumar, has presented a paper titled "Performance Enhancement of Catalytic Converters Using Cerium-Zirconium Oxide Nanomaterials" in the International Conference on Engineering and Scientific Innovations 2024 held at Universal College of Engineering, Tirunelveli on 25/04/2024.
2. Harikrishnan M, has presented a paper titled "Compressed air generation using automobile suspension" in the International Conference on Engineering and Scientific Innovations 2024 held at Universal College of Engineering, Tirunelveli on 25/04/2024.
3. Soorya Narayanan S R, has presented a paper titled "Design and Fabrication of Multi tool indexing drilling Machine" in the International Conference on Engineering and Scientific Innovations 2024 held at Universal College of Engineering, Tirunelveli on 25/04/2024.
4. Aswin Mohan C J, has presented a paper titled "Design and Fabrication of Inspection Conveyor" in the International Conference on Engineering and Scientific Innovations 2024 held at Universal College of Engineering, Tirunelveli on 25/04/2024.
5. Amal A, has presented a paper titled "Design and Fabrication of regenerative clutch" in the International Conference on Engineering and Scientific Innovations 2024 held at Universal College of Engineering, Tirunelveli on 25/04/2024.
6. Afsal A, has presented a paper titled "Design of innovative and cost effective reclining bed" in the International Conference on Engineering and Scientific Innovations 2024 held at Universal College of Engineering, Tirunelveli on 25/04/2024.

Paper Publication by Students

1. Afsal A, "Harnessing suspension dynamics: A sustainable approach to compressed air generation in automobiles", International Journal of Research and Analytical Reviews (IJRAR), 11, 957-965 (2024): 2349-5138
2. Amal A, "Harnessing suspension dynamics: A sustainable approach to compressed air generation in automobiles", International Journal of Research and Analytical Reviews (IJRAR), 11, 957-965 (2024): 2349-5138
3. Vishnu M Lal, "Harnessing Suspension Dynamics: A Sustainable Approach to Compressed Air Generation in Automobiles", International Journal of Research and Analytical Reviews (IJRAR), 11, 957-965 (2024): 2349-5138
4. Anush S Kumar, "Harnessing Suspension Dynamics: A Sustainable Approach to Compressed Air Generation in Automobiles", International Journal of Research and Analytical Reviews (IJRAR), 11, 957-965 (2024): 2349-5138
5. Aravind M I, "Harnessing Suspension Dynamics: A Sustainable Approach to Compressed Air Generation in Automobiles", International Journal of Research and Analytical Reviews (IJRAR), 11, 957-965 (2024): 2349-5138
6. Akshay M S, "Design and Fabrication of Multi Tool Indexing Drilling Machine", Journal of Emerging Technologies and Innovative Research (JETIR), 11, 493-499 (2024): 2349-5162
7. Soorya Narayanan S R, "Design and Fabrication of Multi Tool Indexing Drilling Machine", Journal of Emerging Technologies and Innovative Research (JETIR), 11, 493- 499 (2024): 2349-5162
8. Athul M Murali, "Design and Fabrication of Multi Tool Indexing Drilling Machine", Journal of Emerging Technologies and Innovative Research (JETIR), 11, 493-499 (2024): 2349-5162
9. Harikrishnan M, "Design and Fabrication of Sorting conveyer", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1688-1692 (2024): 0886- 9367
10. Ashwin S S, "Design and Fabrication of Sorting conveyer", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1688-1692 (2024): 0886- 9367
11. Aswin S, "Design and Fabrication of Regenerative Clutch", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 16, 1693-1696 (2024): 0886- 9367
12. Prithviraj B, "Design and Fabrication of Regenerative Clutch", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 16, 1693-1696 (2024): 0886- 9367
13. Aswin Mohan C J, "Design and Fabrication of Regenerative Clutch", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 16, 1693-1696 (2024): 0886-9367