MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

## ECE-DEPARTMENT
## NEWS LETTER/MAGAZINE

# ELECTRO PULSE

**AY: 2022-23**
**JANUARY to JUNE 2023**
**Volume: 07**

**Mr. Marri Laxman Reddy - Chairman**

"The pride of every student and staff would be in his/her college. A college reach heights of glory but without materials like college magazine the outside world may not know of it. The role of a college magazine is to promoting what an institute offers. It brings out into the open things which are unrevealed. It brings to light the names of the unsung heroes and their mighty deeds. I am happy that there is a dedicated team of staff and students who have brought out the magazine of our college. They have presented the stupendous achievements of Marri Laxman Reddy Institute of Technology and Management, in the fields of academics, research, sports and extra circular activities, in a nice way. Dazzle represents the collective work of team. I wish the magazine a grand success".

**Dr. P. Sridhar** Ph.D, M. Tech, MISTE **- Director**

"It is a great pleasure to see a creative expressions of students who had contributed to Electro Pulse, MLRITM has grown abundantly in the recent past. It continues to sustain its growth. People reading this magazine will realize the tremendous changes that are happening in the MLRITM campus. The magazine is presenting a glimpse of the growth of the institution on many fronts. The college has been simply unstoppable in its progress as it has been actively involved in various activities that have brought to light the hidden talents of the college students and staff. The highly qualified and dedicated members of staff have always stood shoulder with the management and have carried out their duties with a level of commitment. This magazine has recorded achievements of staff members and students. I wish the management, staff and students of the college success in their future endeavours".

**Dr. R. Murali Prasad** Ph. D, M. TECH, MISTE **– Principal**

"It gives me immense pleasure to extend my best wishes to the Department for maintaining the technical Magazine-Electro Pulse, which serves as a platform for students and faculty to showcase their innovative ideas, research contributions, and technical expertise. In today's rapidly evolving technological landscape, staying updated with emerging trends is crucial, and this magazine will foster knowledge-sharing and creativity among budding engineers. I encourage students to actively participate, explore new concepts, and contribute towards advancements in their respective fields. May this initiative continue to inspire and empower young minds for a brighter future".


**Dr. N. Srinivas** Ph. D, MIEEE, FIETE, LISTE **– HOD-ECE**

"I am happy to learn that MLRITM College of Engineering is coming out with the half yearly college magazine. Efforts such as this will provide an opportunity for the staff and students to participate in technical events, industrial visits, seminars, workshops, sports etc. Such value additions are very much essential for the young technocrats, engineers and scientists, to demonstrate their ideas for a developed India. I sincerely appreciate and congratulate the chairman, Principal, the editorial team and the entire management of the college for their unrelenting efforts in compiling this magazine".



| EDITORIAL TEAM | |
|---|---|
| **Chief Editor** | **Dr. N. Srinivas** |
| **Faculty Coordinators** | Dr. G. Amarnath<br>Mr. G. Siva Sankar Varma |
| **Student Coordinators** | Ms. K. Apoorva<br>Ms. N. Chandana |
| **Publisher** | Marri Laxman Reddy Institute of Technology and Management |

# INDUSTRIAL VISITS


The B.Tech ECE students had an enriching industrial visit to BSNL, Erragadda, Hyderabad on 12th April 2023, where they gained valuable insights into the real-world functioning of the telecommunication sector. The visit, organized as part of their academic curriculum, provided them with a practical understanding of networking, switching technologies, and communication infrastructure, bridging the gap between theoretical learning and industry applications.

During the visit, the students were introduced to BSNL's advanced telecom infrastructure, including optical fiber communication, broadband networks, mobile communication systems, and telephone exchanges. Experts from BSNL explained the working of transmission and switching systems, the role of network security, and the latest advancements in 4G and upcoming 5G technologies.

The students also had the opportunity to explore the Network Operation Center (NOC), where they learned about fault detection, maintenance, and troubleshooting in telecom networks. They were given practical demonstrations on how calls are processed, how data is transmitted efficiently over long distances, and how BSNL ensures seamless connectivity. The visit provided them with first-hand exposure to telecom hardware and software systems, which are crucial for modern communication networks.

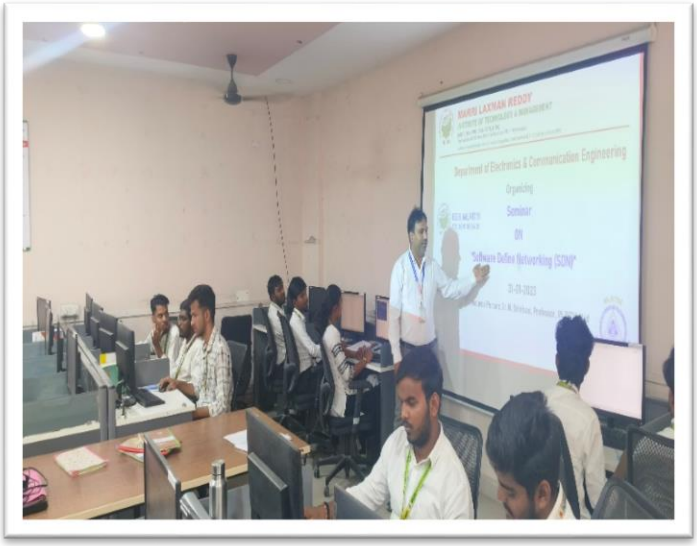
Overall, the industrial visit to BSNL, Erragadda, was a highly informative and engaging experience for the students. It not only enhanced their understanding of telecommunication systems but also inspired them to explore career opportunities in the telecom industry. The visit reinforced the importance of practical exposure in engineering education and motivated students to apply their knowledge to real-world challenges in the field of electronics and communication engineering.

# WORKSHOP/ SEMINAR

The Department of Electronics and Communication Engineering successfully organized a workshop on 12th January 2023, on "Recent Developments in Telecommunication," where 80 ECE students actively participated, Dr. N. Neelima, Asst Professor, VNRVJIET, is the Resource person. The workshop aimed to provide students with insights into the latest advancements in the telecom industry, including 5G technology, IoT-based communication, optical fiber networks, and satellite communication. The workshop covered key topics such as wireless communication protocols, network security, MIMO technology, and the integration of AI in telecom networks. Students had the opportunity to engage in hands-on sessions where they explored network simulation tools, spectrum analysis, and signal processing techniques.

Overall, the workshop was a highly informative and enriching experience, equipping students with cutting-edge knowledge and preparing them for future research and career opportunities in the telecommunications sector. The event also encouraged students to explore emerging trends in mobile networks and broadband communication, further strengthening their technical foundation in Electronics and Communication Engineering.

31st Jan 2023, a workshop on "Software-Defined Networking (SDN)," with the participation of 96 ECE students. Dr. N. Srinivas, Professor, MLRITM, is the resource person The workshop focused on the evolution of traditional networking, the role of SDN in modern network management, and its applications in cloud computing and IoT. Experts from the industry and academia provided valuable insights into network programmability, control plane and data plane separation, and SDN architecture. Students were introduced to OpenFlow protocol, network virtualization, and real-time implementation of SDN-based solutions.



# INTERNSHIPS

S. Ravi (Roll No: 207Y1A0436) and B. Sai (Roll No: 207Y1A04F4) successfully completed a one-month internship on Python Development from 3rd March 2023 to 31st March 2023 and Java Development from 12th April to 29th May 2023 at Code Clause. During this internship, they enhanced their programming skills, gained hands-on experience in software development, and worked on real-time projects.

A. Sadhika (Roll No: 207Y1A0438) successfully completed a one-month internship on Java Programming at InternPe from 03rd June 2023 to 30th June 2023. Throughout the internship, they strengthened their programming skills, gained practical experience in software development, and worked on real-time projects, enhancing their industry readiness and technical expertise.

B. Kiran (Roll No: 207Y1A04H8) and K. Zephaniya (Roll No: 217Y5A04I0) successfully completed a one-month internship on IoT and Drone Technology at Emertxe from 27th March 2023 to 15th April 2023 and 01st June 2023 to 30th June 2023. During the internship, they enhanced their programming skills, gained hands-on experience in software development, and worked on real-time projects, improving their technical expertise and industry readiness.

# TECHNICAL EVENTS

S. Sachin (Roll No: 217Y1A04A6), A. Jaya Prakash (Roll No: 217Y1A0482) and Sai Anju (Roll No: 217Y1A04A8) participated in various Technical Events – Line Follower, Robo Race and Robo Soccer at MLRIT, Hyderabad on 13th May 2023.

V. Dinesh (Roll No: 227Y1A04E2) and P. Akhil (Roll No: 207Y1A0424) participated in Technical Events – ESF-R Ideathon and Robo Wars at MLRITM and MRIT, Hyderabad on 27th April 2023 and 21st January 2023.

# FACULTY ACHIEVEMENTS

Dr. B. Ashok Nayak, published a paper entitled "Parkinson's disease detection using modified Res NeXt deep learning model from brain MRI images" in Soft Computing Springer, Scopus/SCI Journal during May 2023.

Mrs. P. Lavanya, published a paper entitled "A Deep Learning Approach Lung Segmentation And Pneumonia Detection From X-Rays" in IEEE International Conference on recent trends in Microelectronics, Automation, Computing and Communications Systems (ICMACC) during April 2023.

Dr. Srinivas Bachu, published a paper entitled "MRI and CT Image Fusion using Synchronized Anisotropic Diffusion Equation with DT-CWT Decomposition" in IEEE Smart Technologies, Communication and Robotics (STCR) in Jan 2023 and "A Deep Learning System for Object Detection in Street Images using Region Convolutional Neural Network" in International Conference on Science, Technology, Engineering and Mathematics 2.0 during May 2023.

Mr. N. Uday Kumar, published a paper entitled "Artificial Intelligence System for Classification of Diabetic Retinopathy" in IEEE Smart Technologies, Communication and Robotics (STCR) during January 2023.

Mr. E. Sreenivasulu, published a paper entitled "Low-light Color Image Enhancement based on Dark Channel Prior with Retinex Model" in IEEE Smart Technologies, Communication and Robotics (STCR) during January 2023.

Dr. K. Naveen Kumar, published a paper entitled "A Deep Learning System for Object Detection in Street Images using Region Convolutional Neural Network" in International Conference on Science, Technology, Engineering and Mathematics 2.0 during May 2023.

Mrs. Nagajyothi, published a Patent entitled "AI Based Image Reconstruction for Low Dose CT scans", on 02nd June 2023.


Dr. N. Srinivas received, the Reviewer certificate from Wiley – International Journal of Communication systems, on 16th May 2023.


V. Dinesh (Roll No: 227Y1A04E2) won Runner Up for the Technical Event – ESF-R Ideathon at Marri Laxman Reddy Institute of Technology and Management, Hyderabad on 27th April 2023.

# STUDENT ACHIEVEMENTS


S. Sachin (Roll No: 217Y1A04A6) won First Prize for the Technical Event – Line Follower at Marri Laxman Reddy Institute of Technology, Hyderabad on 13th May 2023.

## Vision of the Institute

To be a globally recognized institution that fosters innovation, excellence, and leadership in education, research, and technology development, empowering students to create sustainable solutions for the advancement of society.

## Mission of the Institute

To foster a transformative learning environment that empowers students to excel in engineering, innovation, and leadership.

To produce skilled, ethical, and socially responsible engineers who contribute to sustainable technological advancements and address global challenges.

To shape future leaders through cutting-edge research, industry collaboration, and community engagement.

## Quality Policy

The management is committed in assuring quality service to all its stakeholders, students, parents, alumni, employees, employers, and the community.

Our commitment and dedication are built into our policy of continual quality improvement by establishing and implementing mechanisms and modalities ensuring accountability at all levels, transparency in procedures, and access to information and actions.

## Vision of the Department

To provide quality technical education in Electronics and Communication Engineering through research, innovation, striving for global recognition in specified domain, leadership, and sustainable societal solutions.

## Mission of the Department

- **DM1:** To create a transformative learning environment that empowers students in electronics and communication engineering, fostering excellence in technical skills and leadership.
- **DM2:** To drive innovation through research, deliver a transformative education grounded in ethical principles, and nurture the development of professionals
- **DM3:** To cultivate strong industry partnerships, and engaging actively with the community for societal and technological progress.

## Program Educational Objectives (PEO)

PEO 1: Have successful careers in Industry.
PEO 2: Show excellence in higher studies/ Research.
PEO 3: Show good competency towards Entrepreneurship.

## Program Outcomes (POs)

Engineering Graduates will be able to:

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 cultural, societal, and 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**: Underst and 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 underst and ing 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.

## Program Specific Outcomes (PSOs)

1. Analyze and design analog & digital circuits or systems for a given specification and function.
2. Implement functional blocks of hardware-software co-designs for signal processing and communication applications.