



**MANAKULA VINAYAGAR INSTITUTE OF TECHNOLOGY**  
Kalitheerthalkuppam, Madgadipet 605107

## **NEWSLETTER JAN 2024(EVEN SEM)**



**DEPARTMENT OF**

**ELECTRONICS AND COMMUNICATION**



### **ABOUT THE INSTITUTION**



Manakula Vinayagar Institute of Technology (MVIT) was established in 2008, with a view to provide quality technical education to young aspirants. The institution is affiliated to Pondicherry Central University and is approved by AICTE, New Delhi.

Our college is professionally managed and guided by the members of the board of Management with vast experience, knowledge and academic excellence, with a vision to achieve the most preferred position globally.

The high performance of our Institution is witnessed by the results produced by our students in the university exams. Our Institution has acquired enviable status for maintaining highest order of discipline.

MVIT is revitalizing itself, to face the challenging expertise with reputed team of faculty. We facilitate to produce efficient Professionals who can meet the demands of the expectations and shine in their profession through innovative ideas, knowledge and team work.

### **CHAIRMAN'S MESSAGE**



Sri Manakula Vinayagar Educational Trust was formed with the objective of imparting quality technical education, medical education and other relevant field of education especially to the weaker section of the society.

The Trust is sponsoring the colleges with the state of art facilities and modern technologies for making our students employable as well as to become successful entrepreneurs. We are running all the colleges in the highest order of discipline among the students and personally take care of their studies, successful completion of the course. We take utmost care about students future and also believe that they all are our customers.

All the colleges have got highest order of discipline, won the reputation and opinion of public and industrialists. That is the success of our institutions which makes us to be a leader in Education.

## VICE CHAIRMAN'S MESSAGE



The transition from school to college is a very big step in life. By choosing to create a future for yourself from our institution means that we, the teachers and management at MVIT are responsible for your successful graduation and growth. You will cherish every day at your college, right from day one, you will feel welcome by all of us here – your seniors, your new professors, and members of administration you will get to interact with. What's more the energetic environment will have you charged up to achieve your dream with confidence like never before.

It is your career path that you have now embarked upon, which will be a remarkable journey in itself that will prepare you for a life beyond college. We pray and will work with you to see you become one with the society where your contribution will make a definitive difference to our world.

The commitment from us begins from day one - to work with you and walk with you through each day all through the years you will spend here which is your home away from home. The learned staff members and the ever accessible Management are always with you to guide you through your path and help you nurture your dreams and fulfill them – by empowering you to realize your true potential. Be it studies, sports or any extracurricular activities, you don't just graduate with a degree and a certificate – but become a graduate of life and a true citizen of the world of tomorrow.

## SECRETARY'S MESSAGE



It give me immense pleasure to present few words as prologue to Seventh Issue of MVIT News Letter. I congratulate all the faculty and students and the editorial board for bringing out such a beautiful issue. Empowerment of students for their all round development through education is our appreciated motto.

Today Higher Education means much more than merely acquiring knowledge. It is acquisition of knowledge and skills, building character and improving employability of our young talent, the future leadership.

I am proud of being the Secretary of SMVE Trust dedicated to the causes of better India. Come a let's give our best and make the institution as a modern temple of learning through our diligence, devotion and dedication. Wishing you all the best...!

## PRINCIPAL MESSAGE



My heartiest welcome to all the young and budding Engineers who have joined in Manakula Vinayagar Institute of Technology (MVIT). With the guidance of our respected Chairman and Vice Chairman, with the help of highly qualified and dedicated faculty team, we will be moulding the students to the required shape which will make them industry-ready, employable and well disciplined.

The Manakula Vinayagar Institute of Technology will strive hard to provide pleasant ambience and conducive atmosphere for moulding the young minds to scale greater heights in their chosen field of study. In our college we give top priority to academic excellence, innovation, and discipline. An effective Training and Placement Cell is in place to provide placement to all our students. Focus is given to Extra Curricular and Co-Curricular activities through various clubs and societies instituted to augment the students skills and knowledge.

A state-of-the-art and up-to-date infrastructure facilities and good learning atmosphere are the hallmarks of our Institution. I hope all the students admitted in this Institution will enjoy their study in the campus. Let us all come together, build together, and achieve together with the blessings of Almighty for Tomorrow's India.

## ABOUT THE DEPARTMENT



The Department was established in the year 2008 with a key focus to advance the skills of modern youth in the field of Electronics and Communication Engineering. Adequate emphasis is given to electronic design using innovative teaching methodologies. Emphasis is also given to the digital processing of information for efficient communication. Utmost care is taken in the perspective of imparting more practical knowledge to the student's community in the field of Electronics and Communication.

**An expert team from National Board of Accreditation conducted on-site evaluation of the program from 24<sup>th</sup> to 26<sup>th</sup> August 2018; ECE department has been accredited for 3 years.**

## VISION

To emerge as a center of excellence nurturing innovative engineers in Electronics and Communication technologies who can address global challenges through multidisciplinary approaches, sustainable solutions, and ethical leadership.

## MISSION

Department of Electronics and Communication Engineering is committed

DM1: Deliver cutting-edge education in Electronics and Communication Engineering through Experiential learning, Project-Based Curricula, and Digital Pedagogy to create Industry-ready Professionals.

DM2: Foster research temperament by establishing state-of-the-art laboratories and innovation centers focusing on emerging technologies like IoT, AI/ML, 5G/6G and Quantum Computing.

DM3: Enhance industry collaboration through Internships, live Projects and technology transfer initiatives while promoting Entrepreneurial Mindset among students.

DM4: Develop socially conscious engineers capable of applying Electronic and Communication technologies for sustainable development and societal welfare.

## PROGRAMME EDUCATIONAL OBJECTIVES

Graduates of Electronics and Communication Engineering will

**PEO1 Professional Excellence :** Serve as innovative electronics and communication professionals , demonstrating expertise in emerging technologies.

**PEO2 Research Leadership :** Alumni will excel in research initiatives and entrepreneurial ventures , leading technological innovation in emerging electronics and communication domains.

**PEO3 Sustainable Engineering :** Develop and implement sustainable electronic and communication solutions addressing global challenges while ensuring environmental responsibility and societal welfare.

**PEO4 Ethical Growth :** Graduates will demonstrate ethical leadership in engineering teams while pursuing professional growth and contributing to the field through mentorship.

## PROGRAMME SPECIFIC OUTCOMES (PSOs)

**PSO1: Products Development:** Use modern tools to design subsystems for simple applications in Embedded Systems and VLSI.

**PSO2: Design Thinking:** Apply engineering concepts to find solutions in the fields of Communications, Signal/Image Processing.

## PROGRAMME OUTCOMES

Engineering Graduates will be able to:

**PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2: 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.

**PO3: 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.

**PO4: 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.

**PO5: 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.

**PO6: 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.

**PO7: 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.

**PO8: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9: Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10: 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.

**PO11: 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.

# **EVEN NEWS LETTER**

**(JANUARY 2024 – MAY 2024)**

## **DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

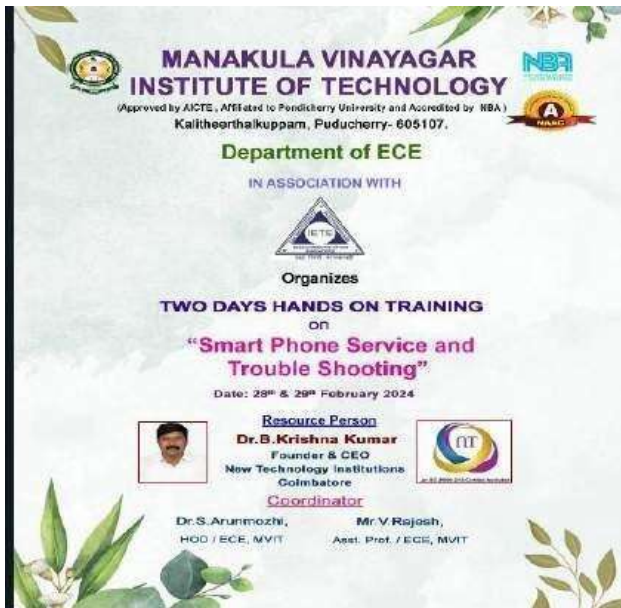
The Department of Electronics and Communication Engineering was founded in 2008 with a primary mission to enhance the competencies of young individuals in the realm of Electronics and Communication Engineering. The department places significant emphasis on fostering electronic design skills through creative and forward-thinking pedagogical approaches. Additionally, it focuses on the adept handling of digitally processed information to optimize communication efficiency. The department's commitment to delivering hands-on practical knowledge to students in the Electronics and Communication domain is noteworthy. An important milestone in the department's journey was achieved on December 3rd, 2022, when it obtained approval from Pondicherry University to function as a designated Research Center. This recognition highlights the department's commitment to advancing research and contributing to the academic and technological landscape in the field of Electronics and Communication Engineering.

### **Staff activities:**

1. Dr.S.Arunmozhi, Professor & HoD, Department of ECE conducted a one day workshop about OBE implementation for the Faculty Members of Crescent Engineering College on 10.3.2024



- In February 2024, two days of hands-on training on "Smart Phone Service and Trouble Shooting" were organized by Mr. V. Rajesh, AP/ECE, and Dr. S. Arunmozhi, HoD/ECE, at MVIT. Dr. B. Krishnakumar, the CEO and founder of the New Technology Institute in Coimbatore, is the resource person.



- Mrs. D. Mary Getsy, Mr. R. Sambhath Kumar, and R. Vijayalakshmi attended the MVIT "Faculty Development Program (FDP) on Curriculum Development and Syllabus Design," which was organized by IETE, on 05.01.2024.
- Mr. Sampath Kumar participated in the FDP-ICT Integrated Evaluation, which was sponsored by Indian University, in outcome-based education from at AMET University.
- On January 20–24, Mr. R. Sambhath Kumar attended the "FDP on Virtual lab" sponsored by Virtual Labs and arranged by Amirta Vishwa Vidyapeetham, Kollam.



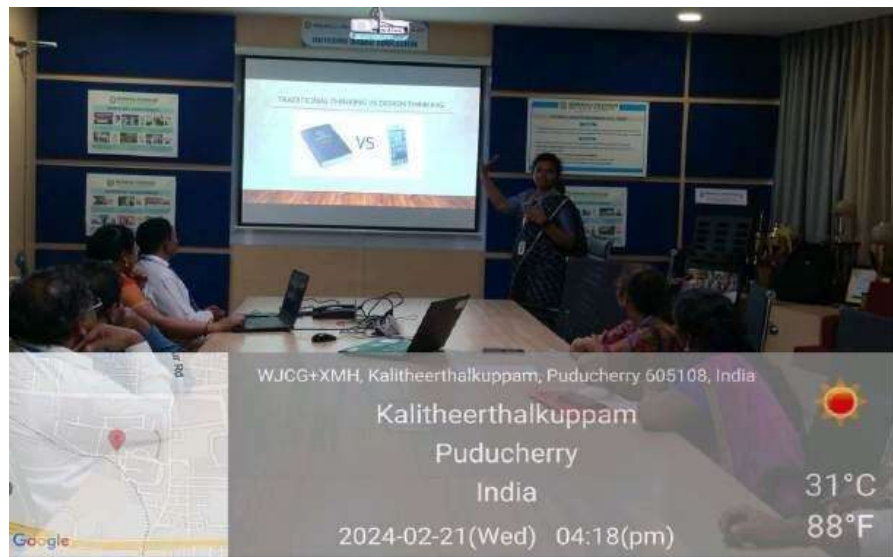
6. M.Sivaraj attended FDP on “Latest Trend and Technologies in Software Engineering: An Industry Perspective” organized by the Department of Computer Science, Christ (Deemed University), Bangalore from 20.01.2024 to 04.08.2023.
7. Dr.R.Sofia completed course on “Antenna Types” during February 2024.
8. In February 2024, Mrs. D. Marygetsy finished her course on "VLSI -Quatres software."
9. Ms. M. Zarina Begum and Dr. V. Gowthami participated in the KLS-IMER program "FDP-Unlocking Opportunities-Publishing in Scopus Indexed Journal" from February 12–24 to February 17



10. Mr. Sampath Kumar participated in IIC sponosed FDP on "Emerging tool technique in cloud computing & data science," which was held from February 19–24, 2024, at Narshima Reddy Engineering College.
11. Dr.A.Shankar attended “FDP ON INDUSTRIAL ROBOTS” organized by Vishwakarma institute of technology, Pune from 01.04.2024 to 05.04.2024.



12. Dr. R. Sofia, Dr.S.Semmalar, Associate Professor/ECE have attended National Level seminar on “Advances in Antenna Technology and Biological Effects of Electromagnetic Radiation” by SERB at SMVEC from 21.3.2024 to 22.3.2024.
13. Mrs.D.Marygetsy,AP/ECE,Mrs.Alamelu,AP/ECE,Mr.K.Kumaran,AP/ECE,Mr.R.Rajesh, AP/ECE,Mrs.Vithya,AP/ECE and Dr.R.Sofia,AP/ECE have presented Technical lecture series in MVIT on the month of January to February 2024.





14. Mrs. Alamelu.K, AP/ECE published a paper titled "Prediction of Cardio Vascular Diseases using Machine Learning Algorithms" in the Second International Conference on Advances in Computational Intelligence and Communication (ICACIC)
15. In the Journal of Communication, R. Sambath Kumar, AP/ECE published a paper titled A QoS-Aware Energy-Efficient Chimp Optimization Routing Protocol with Efficient Sensor Node Deployment Strategy in Underwater Acoustic Sensor Network, 2024.
16. A paper titled "High photocurrent performance of nebulizer sprayed Bi<sub>2</sub>S<sub>3</sub> thin films by a novel Cu-La doping strategy" was published in the Journal of Photochemistry and Photobiology A: Chemistry 444 (2023): 114921 by S. Vinoth, AP/ECE
17. S. Vinoth, AP/ECE, published a paper titled "Improvement in ammonia gas sensing properties of La-doped MoO<sub>3</sub> thin films fabricated by the nebulizer spray pyrolysis method" in Optical Materials 145 (2023): 114464.
18. S. Vinoth, AP/ECE, authored the paper "Enhancement in photo sensing and photocatalytic degradation activity of Cu-doped ZnO nanoparticles prepared by the co-precipitation method" in Physica Scripta 98(12): 125936.
19. S. Vinoth, AP/ECE, published another paper, "Synthesis and enhanced room temperature ammonia gas sensing properties of In-doped MoO<sub>3</sub> thin films prepared via the nebulizer spray pyrolysis technique" in Ionics 30(2): 1113-1123.

### **Student's activities:**

1. T.Nandhini from III Yr-A has completed the course "Smart English Basic for Professional" in Great learning portal on Jan 2024.
2. T. Nandhini from III Year-A finished the CISCO Networking Academy's "Introduction to Cybersecurity" course on January 10, 2024.



3. "Introduction to CSS" course at Solo Learn was finished by T.Nandhini from III Year-A on January 10, 2024.
4. A. Madhumitha from III Year-B finished the NXT Wave course "AI for students" on January 14, 2024.



5. Ragapriya.P of III Yr-B has completed the course "MATLAB Onramp" through MathWorks -Training Services on 13th march 2024.
6. "Machine Learning Onramp" course offered by MathWorks was finished by K. Sivanesh of III Year-B on March 1, 2024.



7. ECE students have undergone full-stack Java web development training offered by TNS India Foundation in collaboration with Capgemini in April 2024.



8. The II Year ECE students attended a workshop on Web development path conducted by Datanrds.AI from April 2, 2024, to April 4, 2024, in the Simulation Lab at MVIT.
9. Department of ECE organized a Value-Added Course on Computer Vision using OpenCV and Python for III-year ECE students by Dr. U. Sabura Banu, Director, ArcresTechsol Pvt. Ltd. from 2.4.2024 to 6.4.2024 in the simulation lab.
10. ECE III-year students and along with the faculty members attended the program held on Pondicherry University dated on 13.03.2024 which is youtube live session on “Inauguration of Semiconductor Facility” on 13th March 2024. An introductory Lecture is scheduled at 9.30A.M. that will be followed by “Live Telecast of Inauguration of Semiconductor Facilities” at 10.30 A.M. by Shri. Narendra Modi, the Honorable Prime Minister of India at Jawaharlal Nehru Auditorium of Pondicherry University campus.



## Extension/NSS Activities/Extra-Curricular Activities:

1. Mr.Arunmozhi,HOD/ECE and Mr.V.Rajesh,AP/ECE were organized the sports event “Steller’s Trophy 24” in Manakula Vinayagar Institute of Technology on 24th Feb 2024.



2. Dr.R.Sofia,AP/ECE and Mr.V.Rajesh,AP/ECE,organized the event Life below water-SDG-14 on 23rd Feb 2024 in Pondicherry beach.



3. IV-year ECE students participated in kabaddi tournament organized by Government of Puducherry at Pondicherry University on 05.01.2024
4. III-B student won third prize in Stellers Trophy conducted by Department of ECE, MVIT on 17.02.2024.
5. Suji.J.S, Ram Prasath,Mukesh K of III-A, ECE students shared their contribution at Disaster management in Kalmandabam conducted by NSS, MVIT.

6. Ramprasanth, III Yr/ ECE students participated as a Volunteer for Polio Camp on 03.03.24.
7. Mrs.Vithiya, AP/ECE took part in UBA Implementation projects in Kuruvinatham village and taught Dhoop making for developing self-employment among the womens conducted by MVIT on 23.03.24.
8. Ramprasath and Vinoth, III Yr/ECE participated in Nation Integration camp-NSS organized by Government of India at Bangalore.
9. II-year ECE students created awareness on various topics for the school students as a part of School Activity, MVIT on 01.03.2024.



## **Industrial Interaction Details/ Internship and Implant Training**

1. Mr.Murali,AP/ECE and D.Marygetsy,AP/ECE organize the field trip to ATAL incubation startup Expo on 3rdfeb 2024.



- Mr.Kumaran,AP/ECE participated in the event UMAPINE TN global conference organized by the department of IT&DS held on 23rd& 24th Feb 2024.



- S. Hariharan, A.Monica, Third-year student of Electronics and Communication Engineering, has completed an internship at Oasis Online since February 28th, 2024.



- Department of ECE organized Industrial Visit to IITM Research Park, Chennai for the interested ECE students from II,III year and the Ms. R. Vithiya, Mr. S. Gowshameed, Ms. D. MaryGetsy and Dr. R. Sofia coordinated the Industrial Visit dated on 12.03.2024 and in

that visited various companies like GUVI, and learnt concepts like how IIT-M Designs Customisable Wheelchair that Transforms into an Electric Vehicle, AR VR concepts, Battery manufacturing, 3D Printed Satellite design, and 5 G communications.

5. Srinidhi Valliappan, Sanjay S., Kirubakaran N., and Reventh K. began their internship as front-end developers at Datanerds.AI on March 4th.



6. D.Marygetsy, AP/ECE has attended IWIN annual meet on 3rd march 2024.



7. III year ECE girls along with D.Marygetsy, AP/ECE have attended the YI Crown Award function on 8th march 2024.

### **Activities of the Department (guest Lecture /workshop/special Lectures)**

1. Dr. S. Semmalar, AP/ECE, and Dr. S. Arunmozhi, HOD/ECE, jointly organized a guest lecture on the "Furtherance of Women Leadership Quality" on February 10, 2024. The session was led by Dr. S. Tamil Selvi, Professor in the Department of English at University College of Engineering, Villupuram



2. Dr.S.Semmalar,AP/ECE and Dr.S.Arunmozhi,HOD/ECE, jointly organized the guest lecture on the topic of "Importance of Defense in Satellite "on 23rd Feb 2024.The Resource person was Mr.S.Purushothaman, Senior Scientist, ISRO, Bangalore.





3. Dr.S.Semmalar,AP/ECE organized the workshop in the topic of “Designing an Antenna using HFSS simulation software” session delivered by Dr.Jayanthi, Professor,Dept of ECE, Government College of Engineering, Salem Conducted on February 2024 through online mode.
4. Dr.S.Arunmozhi,HOD/ECE organized a Guest lecture on “Future Scope on Emerging Technologies” , by Mr. S.M. Soukath Ahamed, Regional Business Head- TN & Kerala, DADB, German Academy of Digital Education and his team on 15<sup>th</sup> March 2024 in MVIT Auditorium for the II year and III year ECE students.



5. Department of ECE organized a Career guidance program for III-year ECE students on the topic “Job opportunities in Industries” on 19.3.2024 by Mr. Victor Raja, End User Manager, Forbes Marshall Private Limited.



6. Department of ECE organized International Day of Happiness and conducted activities video/Photo contest, Wall/ Tree contest and students from various departments participated in the event dated on 20.3.2024



7. Department of ECE organized Prototype, Process Design and Development workshop for II year and III-year ECE students by Mr. Manimaran Thangavel, ATAL Lab student Trainer on 23.3.2024 in Simulation lab



8. Department of ECE organized a seminar related to “IPR in Innovation and Technology”, by Dr. P. Jayakumar, JSIP design Solutions, Madurai for II Year ECE students on 15.03.2024 in class room
9. MITIRONCE-2024 conducted by Department of ECE and organized various events like Paper presentation, Line Follower, UNO-Tech Finder, E-Circuit Debugger, Technical Quiz, Code clash in Python, Fun Zone for students from both internal and external (participants from other colleges) nearly in ECE alone 82 students participated from other college on 16.03.2024.



10. Department of ECE organized a Career guidance program for III-year ECE students on the topic “Job opportunities in Industries” on 19.3.2024 by Mr. Victor Raja, End User Manager, Forbes Marshall Private Limited.



11. Department of ECE organized a Workshop on “Curriculum Development and Syllabus Design”, “Learning Pathways for 21st Century Skills Innovative Curriculum Design” handled by Dr. Sheela Ramachandran, Pro-Chancellor of Atmiya University, Rajkot, Gujarat dated on 5.1.2024, 4.4.2024, 5.4.2024 and 6.4.2024.



12. Dr.Semmalar and Dr.S.Arunmozhi organized a seminar on Developing Entrepreneurship skills by Mrs. K. Padmapriya AP/Saveetha Engineering College, Chennai on 12.4.2024.



13. Dr.S.Arunmozhi,HOD/ECE conducted a seminar related to Research Methodology for IV ECE students on 10.4.2024.



### **Details of Patents Granted**

1. In March 2024, Dr. R. Valli, Head of R&D, received product patent rights for the "Automated portable grocery dispenser machine."
2. Dr.S.Arunmozhi,HOD/ECE has been granted with product patent rights for "Foldable Wheel Chair with Location Identifier" on 08/02/2024.
3. Dr. S. Arunmozhi, HOD/ECE received product patent rights on February 20, 2024, for the product "Reading Assistant for Visually Impaired individuals".

- The product patent rights for the Automatic “Portable Grocery Dispenser Machine” were granted to Dr. S. Malarkkan, Principal, MVIT; Dr. R. Valli, R&D Head; and Mr. V. Rajesh, AP/ECE on March 14, 2024.



5.





## Achievements and Awards

1. D.Marygetsy, AP/ECE invited as jury for the paper presentation conducted in MVIT MBA department on 21st Feb 2024.



2. Dr.R.Valli,R&D Head/Professor was honored with an award by VRIKSHAMM. The award recognized her remarkable contributions in the realm of invention and innovation.

This prestigious accolade was presented at the Casagrando Patent & Innovation Summit 2024, which took place on February 21st, 2024.



3. K.Alamelu,AP/ECE and Dr.Semmalar,AP/ECE have won second price in inter college Throw ball match conducted on 5th march 2024 in MVIT.



4. Faculties of the ECE department were appreciated with the academic award and rewards in the fruition'24 on May 16th 2024.
5. Mrs.D.Marygetsy was awarded as the best class advisor in fruition'24 conducted on May 16<sup>th</sup> 2024.



